Hartigan's K-Means Clustering

DESCRIPTION:

Returns a list representing a clustering of the data with as many groups as there are rows in `centers`.

USAGE:

```
kmeans(x, centers, iter.max=10)
```

REQUIRED ARGUMENTS:

`x`: matrix of multivariate data. Each row corresponds to an observation, and each column corresponds to a variable. Missing values are not accepted.

`centers`:
matrix of initial guesses for the cluster centers. Each row represents a cluster center, and thus `centers` must have the same number of columns as `x`. The number of rows in `centers`, (there must be at least two), is the number of clusters that will be formed. Missing values are not accepted.

OPTIONAL ARGUMENTS:

`iter.max`:
maximum number of iterations.

VALUE:

a list with the following components:

`cluster`:
vector of integers, ranging from 1 to `nrow(centers)`, with length the same as the number of rows of `x`. The ith value indicates the cluster in which the ith data point belongs.

`centers`:
matrix like the input `centers` containing the locations of the final cluster centers. Each row is a cluster center location.

`withinss`:
vector of length `nrow(centers)`. The ith value gives the within cluster sum of squares for the ith cluster.

`size`: vector of length `nrow(centers)`. The ith value gives the number of data points in cluster i.

DETAILS:

The object is to find a partition of the observations with `nrow(centers)` groups that minimizes `sum(withinss)`. To actually guarantee the minimum would be computationally infeasible in many settings; this function finds a local minimum, that is, a solution such that there is no single switch of an observation from one group to another group that will decrease the objective. The procedure used to achieve the local minimum is rather complex - see Hartigan and Wong (1979) for details.

It may be necessary to scale the columns of x in order for the clustering to be sensible. The larger a variable's variance, the more important it will be to the clustering.

When deciding on the number of clusters, Hartigan (1975, pp 90-91) suggests the following rough rule of thumb. If k is the result of $kmeans$ with k groups and $kplus1$ is the result with k+1 groups, then it is justifiable to add the extra group when

```
(sum(k$withinss)/sum(kplus1$withinss)-1)*(nrow(x)-k-1)
```

is greater than 10.

REFERENCES:

Hartigan, J. A. (1975). *Clustering Algorithms.* New York: Wiley.

Hartigan, J. A. and Wong, M. A. (1979). A k-means clustering algorithm. *Applied Statistics* 28, 100-108.

SEE ALSO:

```
hclust , mclust .
```

EXAMPLES:

```
irismean <- t(apply(iris, c(2, 3), 'mean'))
x <- rbind(iris[,,1], iris[,,2], iris[,,3])
km <- kmeans(x, irismean)
wrong <- km$cluster!=rep(1:3, c(50, 50, 50))

spin(x, highlight=wrong)

plot(x[,2], x[,3], type="n")
text(x[!wrong, 2], x[!wrong, 3], km$cluster)
    # identify cluster membership that is correct
points(x[wrong, 2], x[wrong, 3], pch=15)
    # boxes for points in error
title(main="K-Means Clustering of the Iris Data")
```

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| kmeans clustering size OR magn | **Google Search** |

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Searched the web for **kmeans clustering size OR magnitude OR quantity "data point"**. Results **1 - 10** of abou
Tip: In most browsers you can just hit the return key instead of clicking on the search button.

Did you mean:***k means*** clustering size OR magnitude OR quantity "data point"

[PPT]Lecture 12: Automated Reasoning under Uncertainty
File Format: Microsoft Powerpoint 97 - View as HTML
... x(i) to the closest mean. so each **data point** x(i ... image (dimensions 1 x
(mxn)). N images
of **size** ... m. call **kmeans** with D = this matrix. **kmeans** is now **clustering** ...
www.ics.uci.edu/~smyth/courses/ics175/ lecture14.clustering.ppt - Similar
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Untitled
... can be of an arbitrary rectangular **size** ... circular neighborhood around each
data point ... These
can be used with **KMEANS** ... perform a variant of unconstrained **clustering** ...
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[PDF]The cclust Package
File Format: PDF/Adobe Acrobat - View as HTML
... be computed and used as a **quantity** ...
6,20,verbose=TRUE,method="**kmeans** ... Description Assigns
each **data point** ... cclust" returned by a **clustering** ... Only **size** is changed
as ...
cran.r-project.org/doc/packages/cclust.pdf - Similar pages

[PPT]Intro
File Format: Microsoft Powerpoint 97 - View as HTML
... the observation that not every **data point** ... run **clustering** algorithm on CFs (**KMEANS**).
handles anomaly 1. BIRCH **Clustering** ... should reduce **size** of tree by about ...
www.cs.uvm.edu/~xwu/kdd/Birch-3.ppt - Similar pages

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... from existing clusters), and the **data point** ... N AME D ESCRIPTION V ALUE **Size** Number
of edge pairs Continuous Algorithm **Clustering** algorithm used **KMeans** ...
www.cse.unsw.edu.au/~icml2002/workshops/ MLCV02/ICML02-Chen.pdf - Similar pages

S-PLUS help
... the cluster in which the ith **data point** ... **size**: vector of length nrow(centers). ... the more
important it will be to the **clustering** ... If k is the result of **kmeans** with ...
www.uni-muenster.de/ZIV/Mitarbeiter/BennoSueselbeck/ s-html/helpfiles/kmeans.html - 6k - Cached - Similar
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scipy.net/cgi-bin/viewcvsx.cgi/*checkout*/scipy/cluster/doc/README.txt?rev=1.1&sortby=rev
... 2D array, each row is a separate **data point** ... on my knowledge of football of what the
size ... I had to supply to the **clustering** ... The **kmeans** algorithm also does this. ...
10k - Cached - Similar pages

SciPy - View CVS: CVS Repository
... 2D array, each row is a separate **data point** ... my knowledge of 164 football of what the **size** ... I had to supply to the **clustering** ... The **kmeans** algorithm also does this. ... scipy.net/cgi-bin/viewcvsx.cgi/scipy/cluster/ doc/README.txt?annotate=1.1&sortby=rev - 17k - Cached - Similar pages
[More results from scipy.net]

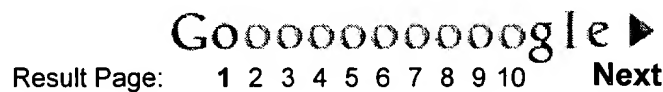### Citations: Complexity optimized data **clustering** by competitive ...
... 3 Some methods also take codebook **size** ... While in **kmeans clustering**, the cost ... for the optimization procedure in **clustering** ... is a distortion measure between **data** ...
citeseer.nj.nec.com/context/83664/0 - 31k - Cached - Similar pages

[PDF]Frequency Sensitive Competitive Learning for **Clustering** on High- ...
File Format: PDF/Adobe Acrobat - View as HTML
... cus- tomers into groups of roughly equal **size** ... The **clustering** problem is to estimate the ... Like the Eu- clidean **kmeans** case, we ... 4 to assign each **data point** to a ...
www.lans.ece.utexas.edu/upload/fsk.pdf - Similar pages

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k-means procedure

This method differs from hierarchical clustering in many ways. In particular:

- There is no hierarchy, the data are partitioned. You will be presented only with the final cluster membership for each case. There is no role for the dendrogram in k-means clustering.
- You must supply the number of clusters (k) into which the data are to be grouped.

At the end of the analysis the data will be split between k clusters (where *you* decide what value to assign to k).

The method is conceptually simple but computationally intensive. At its simplest:

- The cases are initially assigned randomly to the k clusters. Imagine that you split a shuffled deck of cards into two parts ($k = 2$).
- Cases are then moved around between clusters using an iterative method so that a classification is produced such that the clusters must be internally similar but externally dissimilar to other clusters.
- We stop when moving any more cases between clusters would make the clusters become more variable. For example, in the card example we might end up with a set of red cards and a set of black cards.

Cluster variability is measured with respect to their means for the classifying variables, hence the name *k-means clustering.* If more than one variable is used to define the clusters the distances (dissimilarities) between clusters are measured in multi-dimensional space (e.g. euclidean distance).

It is possible to carry out a k-means clustering analysis using SPSS. The following outlines some of the options.

SPSS COMMANDS k-means

INITIAL : This defines the initial cluster centres. Normally the clustering is carried out iteratively, i.e. start from some arbitrary point and refine the classification. There are circumstances in which you might wish to specify the cluster centres, for example if your data were xy coordinates you could specify nest locations as cluster centres. If you did this cases would be assigned the nearest nest. Alternatively, you might know what the mean values are for some group, for example drug abusers and normal members of the population. If you had data from some unknown case you could decide which cluster that individual should be placed into.

SELECT (default) uses widely separated cases as the initial cluster centres.

- FIRST uses the first k cases as initial cluster centres. This is the appropriate method when you wish to form many clusters and the cases are in an effectively random sequence. You **must not** use this option if the cases are in ranked order for any of the classifying variables.
- (list) This method allows the explicit specification of cluster centres. This can be useful in situations of the following types: you have sightings data and known nest sites or you have the locations of individuals with a particular disease and possible infection sites. In these situations you could use the nest sites or the

possible infection sites as the cluster centres.

CRITERIA : Specify the number of clusters with this command.

- CLUSTERS (*k*) where *k* is the number of clusters.
- NOUPDATA prevents any updating of cluster centres this is only effective if INITIAL ( ) has been specified. The only subsequent processing is assigning cases to the correct cluster.

PRINT defines the output from the procedure.

- CLUSTER cluster membership for each case.
- DISTANCE distances between all cases.
- ANOVA Single factor ANOVA for each variable between all clusters. The Ho for each analysis is *Ho: There is no siginificant difference in variable i between clusters*. However, because cases are assigned to clusters to maximise their differences we cannot interpret the results of these Null Hypotheses to indicate an overall significant difference between clusters. In other words although two or more clusters may differ with respect to one or more variables this does **not** mean that the clusters themselves differ significantly. This is because the distances between clusters must be measured through a multi-dimensional space which is defined by all of the clustering variables, and not via a restricted set of dimensions (variables) defined by significant differences in an ANOVA.

Return to Cluster Analysis

TOOLS FOR QUANTITATIVE ARCHAEOLOGY

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November 29, 1998

Tools for Quantitative Archaeology is a commercial package of microcomputer programs developed to satisfy the unusual analytical needs of archaeologists. The focus of the package is on methods developed for archaeology and not included in general-purpose statistical packages. While this package can perform many important analyses, it is not a complete substitute for a general purpose statistical package. While this web site describes each of the programs in the package, at the moment, the graphics display poorly over the web. However they are, in fact, publishable quality vector graphics that can be printed directly on a printer or plotter that supports HPGL or may be manipulated and printed by most programs that process graphics, including word processors. A few programs highlighted in purple, are available, without obligation, as freeware and can be downloaded from this web site.

Spatial Analysis Module

CONTIG - Monte Carlo evaluation of the statistical significance of the observed degree of contiguity of grid units assigned to the same cluster. This is useful when the cluster assignments have been derived in a way that is independent of their spatial location, for example, in an unconstrained clustering analysis. You may download contig.zip, which includes the program and a sample data file.

FISHER - Calculates Fisher's Exact test, useful for mean- or median-split grid count analyses such as those described by Spurling and Hayden (1984).

Figure 1. KMEANS Pure Spatial Clustering of Mask Site Artifacts, 8 Cluster Solution Output By KMPLT.

GRID - Aggregates point-provenience data into counts by type for each grid unit. The grid can have any origin and grid units can be of an arbitrary rectangular size. A weighting option permits use of GRID on data sets in which multiple objects at the same location are recorded on a single input record. The program can be used in performing a grid-based variant of Whallon's unconstrained clustering with a point- provenienced data set.

HOA - Computes Hodder and Okell's A and dispersion ratios (Hodder and Okell 1978). An extension permits Monte Carlo analysis of significance.

KMEANS - Performs k-means cluster analysis with extensive output designed to facilitate interpretation. The program can be used to cluster analyze any data set, but has special features developed for use in archaeological spatial analysis. In particular, Kintigh and Ammerman's (1982) *k*-means *pure locational clustering* method can be performed. The program also executes the clustering for Whallon's (1984) *unconstrained clustering* method on data smoothed using the GRID or LDEN
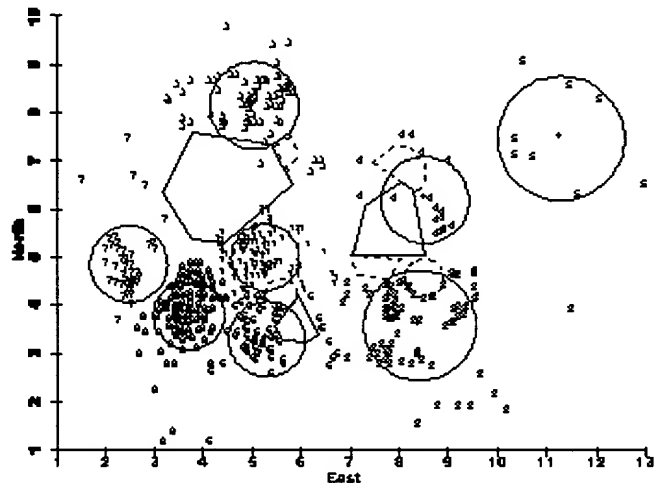
programs. Program limits are 2000 points or 30 variables (but no more than about 8000 data values. Results can be plotted with the KMPLT utility.

KMPLT - Plots the SSE and (2 dimensional) cluster configuration results of KMEANS on screen and creates hard-copy publishable quality plots (Figure 1).

KOETJE - Performs the Monte Carlo analysis of homogeneity of cluster configurations as suggested by Koetje (1987). Uses the output file from KMEANS or reads separate data sets consisting of counts of artifact class by cluster. An extension permits evaluation of individual cluster probabilities.

LDEN - Performs Johnson's (1984) Local Density Analysis on point-provenienced or grid data. The program also outputs counts or percentages of points of different types that occur within a circular neighborhood around each data point. These can be used with KMEANS to perform a variant of unconstrained clustering (Whallon 1984). LDEN can handle in excess of 2000 points with two variables or a smaller number of observations with up to 30 types. In a single run, it computes inter-type local density coefficients for any number of radii that can be plotted with LDPLT.

LDPLT - Plots selected local density coefficients computed by LDEN against radius, so behavior of coefficients for different pairs of classes can be easily observed over a range of radii (Figure 2).

NEIG - An efficient, general-purpose nearest-neighbor (Whallon 1984) and gravity model program useful for intrasite spatial analysis or regional analysis. It allows categorization of items by class (e.g. site type or tool type) and permits the calculation of within or between class neighbors. Output includes nearest-neighbor statistics, summary data about the classification of nearest neighbors for points of each class and lists of the first *n* nearest-neighbors for each point. The program will handle between 2000 and 5000 points for an analysis of first nearest neighbors, but is limited by computer memory. Monte Carlo analyses of significance can be performed.
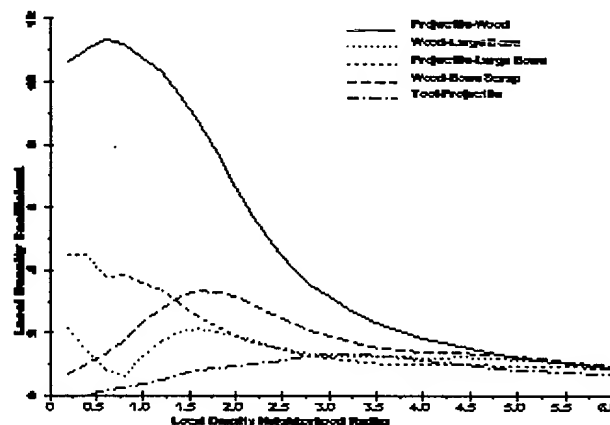

Figure 2. Local Density Analysis of Mask Site Artifact Classes, Intertype Coefficients Computer by LDEN and Output by LDPLT.

RANDPT Generates random sets of coordinates for clumped distributions with different parameters. Available for free in randpt.zip are DOS executable file and the pascal source code that serves as documentation. This program was written for my own research and I have not drafted separate documentation.

Diversity Module

BOONE - Calculates, for a set of proveniences with counts by artifact class, Boone's (1987) assemblage heterogeneity measure and related values.

DIVERS - Calculates richness and evenness (H/Hmax) dimensions of diversity for a given data set and uses Monte-Carlo methods to derive expected diversity for a model distribution over a range of sample sizes (Kintigh 1984, 1989). It is capable of handling large problems efficiently. Results can be plotted

with the utility DIVPLT.

DIVMEAS - Calculates several diversity measures including Richness, Simpson's, Shannon's, Brillouin's, and the Renyi and Delta families of generalized diversity measures for any given distribution of counts.

DIVPLT - Plots the results of DIVERS on screen and creates publishable quality plots (Figure 3).

Distance Module

ARRANGE - creates a probabilistic estimate of the range of site dates based on the proportions of dated ceramic types in the assemblage. Output includes a density plot against time. The program also calculates mean ceramic dates. This method is described in Steponaitis and Kintigh (1993). The DOS executable file, a documentation file, sample data, and output files can be downloaded as, arrange.zip.
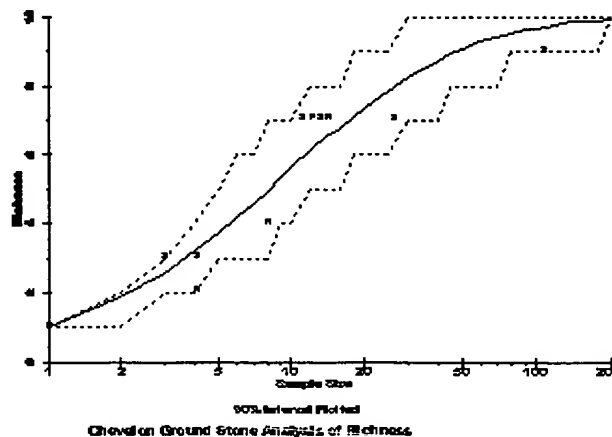

Figure 3. DIVERS Monte Carlo Analysis of Chevelon Ground Stone Richness, Output by DIVPLT.

BAYES - This program implements Bayesian methods for proportions as described by Iversen (1984). Intervals are calculated and graphed for Bayesian estimates of proportions based on both flat and informative priors.

BINOMIAL - Computes binomial probabilities and population proportion intervals for a sample.

BRSAMPLE - Provides a Monte Carlo estimate of the sampling error of differences of the Brainerd Robinson coefficient calculated between a sample and a known population or between two samples drawn from the same population.

CLCA - Performs a Complete Linkage Cluster Analysis on up to 180 cases. It takes as input an upper triangular distance matrix, as is created by the DIST program. As output, it lists the sequence of item/cluster joins and fusion values but does not create a dendrogram.

DIST - Computes a triangular matrix of distance or similarity measures: Euclidean Distance, Pearson's r, Brainerd-Robinson Coefficient, Jaccard's Coefficient, Simple Matching Coefficient, and Gower Coefficient. It handles up to 180 cases with 16,000 total input values (88 variables for 180 cases).

FORD - Plots a publishable quality battleship curve (Ford) diagram on the screen and optionally to a hard copy device. It reads a file of percents of types (columns) by provenience (rows) and optional row and column labels. The program permits
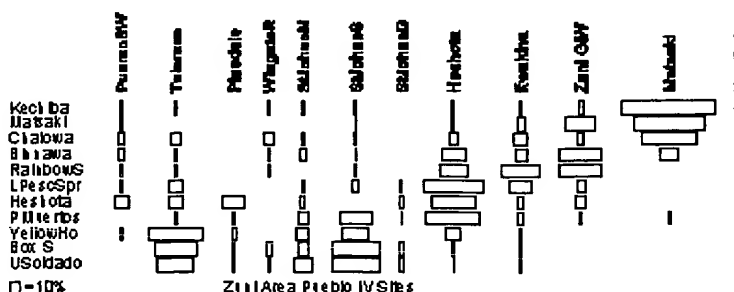
interactive elimination or
reordering of the rows and columns and replotting of the data.

POISSON - Computes Poisson and negative binomial probabilities, given expected counts.

TWOWAY - provides tests of independence and measures of association and prints tables that have
been standardized with a number of techniques. Standard Chi² and G tests of independence are provided.
Using Monte Carlo methods, Chi² and G tests can be performed on tables with very small expected
counts. A Chi² goodness of fit test (with externally determined expected values) can also be calculated.
Measures of association include Yule's Q, Phi, Cramer's V and proportional reduction of error measures
Tau and Lambda. Table standardization methods include median polish (Lewis 1986) and Mosteller
(multiplicative) standardization as well as Haberman's z-score standardization for independent variables
used by Grayson (1984) and Allison's binomial probability-based z-score standardization. It will also
print row, column, and cell percents, Chi² cell contributions, and Chi² expected values.

C14 Analysis Module

C14 - provides a graphical way to analyze sets of radiocarbon dates. Each radiocarbon date is treated not
as a single point in time but as a normally distributed probability with a mean and standard deviation
given by the lab. In evaluating several dates, for each interval the probability distributions associated
with the dates are summed. For each temporal interval, an *expected* number of dates is calculated and
plotted in a histogram.

DSPLIT - Compares and combines radiocarbon samples using the procedure published in *Archaeometry*
by Wilson and Ward (1981). Documentation is limited to a description of the program prompts.

Subsurface Testing Module

PLACESTP calculates the optimal placement of test units in a rectangular or linear survey area. For a
user-specified number of survey transects (or user-specified lengthwise and width-wise spacing of test
units), in any one of three basic configurations, the program will print out the coordinates of the optimal
test unit placement, along with some statistics about the largest circular site that can go unsampled in the
survey area. This program implements the formulae provided by Krakker, Shott, and Welch 1983 and
revised in Kintigh 1988.

STP - Probabilistic evaluation of subsurface testing designs as described in Kintigh 1988. STP uses
Monte-Carlo methods to evaluate the effectiveness of a test unit layout within a survey area to locate
sites with a given size and artifact density.

Utility Module

ADFUTIL - Generates random data sets and manipulates files in the data format used by the analysis
programs. It allows the creation of random data set of any size. Variables may be uniform or normally
distributed variables with user specified ranges or means standard deviations. ADFUTIL allows the
deletion of columns (variables), selective deletion of rows (observations) based on values in a column,
replacement of values in a column, randomization of columns for Monte Carlo analysis, the addition of
new columns from another data set, and selection of a random sample of cases.

CNTCNV - Program to speed data input and increase entry accuracy for count data, where the number
of categories is large relative to the number of items counted for an observation (e.g. surface collection

counts of 40 ceramic type divided into 8 vessel forms). It permits a highly abbreviated input format but it writes out a standard matrix (of the sort read by most analysis programs) with one count per category of each observation. The program provides labeled printouts of the data and can perform elaborate aggregation of count categories and simple aggregation of observations.

CONVSYS - Converts a SYSTAT internal format data file into a raw data file, a variable label file, and a case label file that can be used these and other programs that read free-format ASCII data. Works with versions 2.0 and above of SYSTAT, on files of any size.

HPPLOT provides a flexible user interface to a Hewlett Packard compatible plotters. Its can create a customized analysis graphics from a raw data file edited to include the plot commands.

MVC - Permits arbitrarily complex copying of sets of columns in an input record into sets of columns in an output record. It can extract data from fixed-format data records for use with analytical programs that require free format input. Files of any size can be processed.

SCAT - Produces screen and publishable quality scatter plots of variables. All points may be plotted with the same symbol, or different symbols can be plotted based on the value of a variable.

SORTLINE - A general purpose sort utility, SORTLINE sorts fixed-format data files of up to 32,767 lines into an order defined by any number of user-specified sort fields.

SPLIT - divides a large file into sections that can be recombined with the DOS COPY command. Thus, large hard disk file can be split and copied onto several floppies.

UNTAB - Replaces tabs and control characters in a file with blanks so they can be used with analysis programs that require pure ASCII files (e.g. SYSTAT).

```
Set     Items   Description
S1        893   KMEAN? OR KMEDIAN? OR KPROTOTYP? OR K()(MEAN? ? OR MEDIAN?
                OR PROTOTYP?)
S2   12402892   CLUSTER? OR DATACLUSTER? OR GROUP? OR ORGANIZ? OR ORGANIS?
                OR ARRANGE? OR CLASSIF?
S3   11266160   BOUNDAR? OR EDGE? OR LIMIT? OR LINE? OR PARTITION? OR BORD-
                ER? OR DIVIDER?
S4    6389847   CENTER? OR CENTRE? OR CENTRAL?
S5   13204001   SIZE? OR MAGNITUDE? OR NUMBER? OR AMOUNT? OR QUANTIT? OR T-
                OTAL? ? OR COUNT OR COUNTS
S6          8   S1(S)S2(S)S3(S)S4(S)S5
S7         25   S1(10N)S2(10N)(S3 OR S4)(10N)S5
S8         28   S6 OR S7
S9         26   RD (unique items)
S10        23   S9 NOT PY>2000
S11        22   S10 NOT PD>20001004
File 275:Gale Group Computer DB(TM) 1983-2002/Sep 23
         (c) 2002 The Gale Group
File  47:Gale Group Magazine DB(TM) 1959-2002/Sep 20
         (c) 2002 The Gale group
File 636:Gale Group Newsletter DB(TM) 1987-2002/Sep 23
         (c) 2002 The Gale Group
File  16:Gale Group PROMT(R) 1990-2002/Sep 23
         (c) 2002 The Gale Group
File 613:PR Newswire 1999-2002/Sep 23
         (c) 2002 PR Newswire Association Inc
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
File 141:Readers Guide 1983-2002/Aug
         (c) 2002 The HW Wilson Co
File 239:Mathsci 1940-2002/Oct
         (c) 2002 American Mathematical Society
File 370:Science 1996-1999/Jul W3
         (c) 1999 AAAS
File 621:Gale Group New Prod.Annou.(R) 1985-2002/Sep 20
         (c) 2002 The Gale Group
File 674:Computer News Fulltext 1989-2002/Sep W3
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File   9:Business & Industry(R) Jul/1994-2002/Sep 20
         (c) 2002 Resp. DB Svcs.
File 647:CMP  Computer Fulltext 1988-2002/Sep W1
         (c) 2002 CMP Media, LLC
File  98:General Sci Abs/Full-Text 1984-2002/Aug
         (c) 2002 The HW Wilson Co.
File 148:Gale Group Trade & Industry DB 1976-2002/Sep 23
         (c)2002 The Gale Group
File 634:San Jose Mercury  Jun 1985-2002/Sep 20
         (c) 2002 San Jose Mercury News
```

01338105   SUPPLIER NUMBER: 09661055
**Simultaneous fitting of several planes to point sets using neural networks.
   (technical)**
Kamgar-Parsi, Behrooz; Kamgar-Parsi, Behzad
Computer Vision, Graphics & Image Processing, v52, n3, p341(19)
Dec, 1990
DOCUMENT TYPE: technical   ISSN: 0734-189X   LANGUAGE: ENGLISH
RECORD TYPE: ABSTRACT

ABSTRACT: A method is developed for fitting a **number** of **lines** or
planes to sets of points in three-dimensional space that uses an artificial
neural network to achieve a 'very good' though maybe not optimal solution.
The extrapolation of **line** , surface, and shape from sets of points is a
central problem in pattern recognition and computer vision. The problem
becomes exponentially more complex with the increasing **number** of points.
The new approach uses an optimization technique similar to the **K - means**
method of **clustering** data points into compact clubs but is more robust
when resolving noisy data and can...

03718189   SUPPLIER NUMBER: 12222086   (USE FORMAT 7 OR 9 FOR FULL TEXT)
High-frequency network oscillation in the hippocampus.
Buzsaki, Gyorgy; Horvath, Zsolt; Urioste, Ronald; Hetke, Jamille; Wise,
Kensall
Science, v256, n5059, p1025(3)
May 15, 1992
CODEN: SCIEAS   ISSN: 0036-8075   LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 2171   LINE COUNT: 00174

...   using a 10-kHz sampling rate on each channel and 12-bit resolution.
[8]A **K - means** **clustering** algorithm was used for spike separation. The
spikes were represented as points in a ten...

...in that space. An iterative procedure was used to find the local minimum
of the **partition** error, and the **number** of separate unit **clusters** was
determined by variance ratios [D. H. Perkel, G. L. Gerstein, G. M. Moore,
Biophys...

...Buzsaki, Zsolt Horvath, Ronald Urioste, Jamille Hetke, Kensall Wise G.
Buzsaki, Z. Horvath, R. Urioste, **Center** for Molecular and Behavioral
Neuroscience, Rutgers University, 197 University Avenue, Newark, NJ 07102.
J. Hetke and K. Wise, **Center** for Integrated Sensors and Circuits,
University of Michigan, Ann Arbor, MI 48109.

03397052   SUPPLIER NUMBER: 08968141   (USE FORMAT 7 OR 9 FOR FULL TEXT)
**Regularization algorithms for learning that are equivalent to multilayer
   networks.**
Poggio, T.; Girosi, F.
Science, v247, n4945, p978(5)
Feb 23, 1990
CODEN: SCIEAS   ISSN: 0036-8075   LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT
WORD COUNT: 4517   LINE COUNT: 00364

... k-means algorithm [32]] and can be interpreted as learning scheme in which the **centers** of the radial functions move to find **centers** of **clusters** of input vectors [33]. Coarse coding techniques and product units [34] can be interpreted neatly...

11/3,K/4   (Item 1 from file: 239)
DIALOG(R)File 239:Mathsci

02812716 MR 98h#62153
Pairwise partitioning: a nonmetric algorithm for identifying feature-based similarity structures.
   Hutchinson, J. Wesley (Department of Mathematics, University of Florida, Gainesville, Florida, 32611)
   Mungale, Amitabh
   Corporate Source Codes: 1-FL
   Psychometrika
   Psychometrika. A Journal of Quantitative Psychology,   1997,   62,   no. 1,   85--117. ISSN: 0033-3123   CODEN: PSYKA2
   Language: English   Summary Language: English
   Subfile: MR (Mathematical Reviews) AMS
   Abstract Length: LONG (154 lines)
   Reviewer: Samejima, Fumiko (1-TN-A)

   ...and margarine, English muffin and margarine, etc.). Three approaches, unrestricted, restricted and threshold-based pairwise **partitionings** , were taken. To reduce the **number** of features in the unrestricted approach, using the $ k $- **mean** algorithm, very similar **clusters** were replaced by a single **cluster** comprised of items common to all **clusters** , setting the maximum **number** of **clusters** to $2N$, $3N/2$, N, and $N/2$, respectively. For the threshold-based algorithm, four...

11/3,K/5   (Item 2 from file: 239)
DIALOG(R)File 239:Mathsci

02465142 MR 94j#62136
PP K-mean clustering.
   Zhang, Di Xin
   Zhu, Li Xing (Institute of Applied Mathematics, Academia Sinica, Beijing, Peoples Republic of China)
   Corporate Source Codes: PRC-ASBJ-AM
   Systems Sci. Math. Sci.
   Systems Science and Mathematical Sciences,   1993,   6,   no. 4,
289--295. ISSN: 1000-9590
   Language: English   Summary Language: English
   Subfile: MR (Mathematical Reviews) AMS
   Abstract Length: SHORT (7 lines)
   Reviewer: Gordon, A. D. (4-STAN)

   The authors combine projection pursuit and $ k $- **means   clustering** by proposing to seek a one-dimensional projection of points which minimizes the **total** within-class sum of squares divided by the **total** dispersion along that direction. It is shown that the optimal direction and **cluster centres** converge almost surely to the direction and **centres** that minimize the analogous population coefficient.

11/3,K/6   (Item 3 from file: 239)
DIALOG(R)File 239:Mathsci

02346994 MR 84a#62088
Asymptotic properties of bivariate k-means clusters.
   Wong, M. Anthony
   Comm. Statist. A---Theory Methods

...a uniform   density function defined over it is partioned into k subregions such that the   **cluster** sum of squares within is minimized. An asymptotic (k{arrr}{infin})   lower bound for the within **cluster** sum of squares of this optimal **k - means   partition** is obtained. This lower bound is useful in suggesting that the graph-configuration of the optimal k- **partition** would consist of regular hexagons of equal **size** when k is sufficiently large. An empirical study illustrating these asymptotic properties of bivariate **k - means   clusters** is   also presented.'' ...

11/3,K/7   (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

02186486 74659412
Profiles of MIS doctoral candidates: Ideals and reality
Larsen, Kai R T; Neely, M Pamela
Database for Advances in Information Systems v31n3 PP: 64-77 Summer 2000
ISSN: 1532-0936 JRNL CODE: DFA
WORD COUNT: 6556

...TEXT: or greater standard deviations did not decide most of the positioning of cases. The iterative **partitioning** technique **K - means** was chosen to create the **clusters** , and the threedimensional space was split into eight equal areas with the corner furthest away from the middle of the **total** space used as the starting point for **cluster** analysis. The choice of eight areas was made because an analysis of the data with...

11/3,K/8   (Item 2 from file: 15)   .
DIALOG(R)File 15:ABI/Inform(R)

01970643 46813088
Clustering and the design of preference-assessment surveys in healthcare
Lin, Alfred; Lenert, Leslie A; Hlatky, Mark A; McDonald, Kathryn M; Et al
Health Services Research v34n5 PP: 1033-1045 Dec 1999
ISSN: 0017-9124 JRNL CODE: HSR
WORD COUNT: 3192

...TEXT: subjects into eight groups. The same three variables, each split into thirds, will yield 27 **groups** , a prohibitive number in most applications. One disadvantage of this division at fixed percentiles is that the resulting subgroups may have vastly unequal **numbers** of subjects. Further, if the three variables are highly correlated, then perhaps two or three **clusters** , rather than eight, might be enough. The approach of **kmeans   clustering** , by contrast, seeks to allow the data to "speak for themselves" in determining the **number** of genuinely distinct **groups** present in the data.

The technique of **k - means   clustering** is conceptually simple. The algorithm starts with an arbitrary set of k initial values for the **cluster   centers** , such as k randomly selected points from the data set. The algorithm then divides the...

11/3,K/9   (Item 3 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

Empirically defined health states for depression from the SF-12
Sugar, Catherine A; Sturm, Roland; Lee, Tina T; Sherbourne, Cathy D; et al

...TEXT: choosing the point that is both closest and has the lowest index.
Define the ith **cluster** to be all points in the data set that are closest
to the point ci. Calculate the sum of squared distances from the data
points to their respective **cluster** **centers** cs. This **quantity** is the
distortion. The **k - means** algorithm defines the optimal set of **cluster**
 centers to be the set of points cl,c2, . . ., ck for which distortion is
minimized. Data points are then assigned to **clusters** as before. It is not
obvious how to find the cluster centers specified by the...

... Several issues are of technical concern regarding use of the Lloyd
algorithm for k-means **clustering** , including the choice of dimensions on
which to **cluster** , scaling of the dimensions, and initialization of the
algorithm. Interested readers can find details on our Website at
Http://preferences.stanford.edu/ **cluster** _...
...details.htmL Note also that the **k - means** algorithm specifies **cluster**
 membership once the **number** of **clusters** is fixed, but does not specify
the **number** of **clusters** that should be used. We will discuss this issue
since it is a **central** part of our method for formulating models. Since
the **cluster** **centers** are chosen based on distortion, the root
mean-squared distance to **cluster** **centers** (hereafter called RMSE for
root mean-squared error) seems a natural criterion. There is a clear
trade-off between too few **clusters** and too many. With a single **cluster** ,
RMSE is large. With as many **clusters** as data points, RMSE is 0. In
neither instance are the data summarized in a meaningful manner. For any
given data set, a plot of RMSE versus **number** of **clusters** will produce a
steadily decreasing curve. Typically, at some point, the rate of decrease
will drop sharply because the data are genuinely clumped into a fixed
 number of **clusters** . The "kink" in the curve where the slope changes
most abruptly determines the optimal **number** of **clusters** . It is often
possible to identify the range of reasonable values for k by visual
inspection. However, one can pinpoint the kink more precisely by fitting a
broken- **line** regression to the RMSE curve. (See Sugar, Sturm, Lee, et al.
1997 for a discussion...

... Tibshirani 1993 for details.) We used tenfold cross-validation on our
data set, and tried **numbers** of **clusters** from k = 2 to k = 16. For the
best models that we identified by means of our RMSE plot, we estimated the
 cluster **centers** as accurately as possible by using all the data.

We compared the relative efficiency of

 11/3,K/10   **(Item 4 from file: 15)**

**An empirically derived taxonomy of information technology structure and its
relationship to organizational structure**
Fiedler, Kirk Dean; Grover, Varun; Teng, James T C

...TEXT: are significantly different from each other using multivariate
analysis of variance. In this case, each **group** 's observed F statistic
revealed differences significant at the 0.001 level. To gain further
confidence in the chosen **clusters** , nonhierarchical **cluster** analysis or
 K **- means clustering** was used to determine **cluster** **grouping** and
characteristics. Nonhierarchical **cluster** analysis starts with a

predefined **number** of c●sters and **centers** for each o●he **clusters** .
The method then **clusters** all the cases that fall within a set distance to
each of the defined group...

11/3,K/11   (Item 5 from file: 15)
DIALOG(R)File   15:ABI/Inform(R)

**The application of cluster analysis in strategic management research: An
analysis and critique**
Ketchen, David J Jr; Shook, Christopher L
Strategic Management Journal v17n6 PP: 441-458 Jun 1996
ISSN: 0143-2095 JRNL CODE: SMJ
WORD COUNT: 11577

...TEXT: these problems, confidence in the validity of a solution obtained
using only hierarchical methods is **limited** .

Nonhierarchical algorithms (also referred to as **K - means** or iterative
methods) **partition** a data set into a prespecified **number** of **clusters** .
Specific nonhierarchical methods vary slightly, but function in essentially ·
the same manner (Hair et al., 1992). After initial **cluster** centroids (the
' **center** points' of **clusters** along input variables) are selected, each
observation is assigned to the **group** with the nearest centroid. As each
new observation is allocated, the **cluster** centroids are recomputed.
Multiple passes are made through a data set to allow observations to change
cluster membership based on their distance from the recomputed centroids.
To arrive at an optimal solution, passes through a data set continue until
no observations change **clusters** (Anderberg, 1973).

Nonhierarchical methods have two potential advantages over hierarchical
methods. First, by allowing observations...

11/3,K/12   (Item 6 from file: 15)
DIALOG(R)File   15:ABI/Inform(R)

**Behavior- and outcome-based sales control systems: Evidence and
consequences of pure-form and hybrid governance**
Oliver, Richard L; Anderson, Erin
Journal of Personal Selling & Sales Management v15n4 PP: 1-15 Fall 1995
ISSN: 0885-3134 JRNL CODE: JPN
WORD COUNT: 7460

...TEXT: control philosophy are discussed in O&A. They are used here
without modification.

Analysis

A **k - means clustering** approach was chosen because of the large sample
size and because **cluster** memberships were not known in advance.
Approaches based on **k - means** are iterative in that many **cluster**
center estimations are calculated, all based on a pre-specified **number**
(k) of **clusters** , until no **cluster** centroid can be found which improves
cluster separations. Using the z-scores from the behavior control
classification criteria as **clustering** variables, k was varied from a
low of two until solutions containing less than 10...

11/3,K/13   (Item 7 from file: 15)
DIALOG(R)File   15:ABI/Inform(R)

Process shift modes
Wu, Zhang
International Journal of Quality & Reliability Management v12n1 PP: 53-60
1995
ISSN: 0265-671X JRNL CODE: IJQ
WORD COUNT: 2763

...TEXT: Figure 2 is displayed on the screen of a computer, the user can perceive three **clusters** and input a starting value (guessed value) for each cluster centre to the computer program...

... the clustering algorithm places each pattern into an appropriate cluster, and works out final cluster **centres** . Each cluster corresponds to a shift mode. The **cluster** **centre** (characters omitted) is taken as the estimate of the magnitude of the shift mode, called **clustered** **magnitude** . The ratio (characters omitted) between the **number** of patterns in the ith **cluster** and the **total** **number** of patterns is called the **clustered** occurrence probability of the ith shift mode.

The original **K - Mean** **clustering** algorithm takes the mathematical mean of the patterns as the **cluster** **centre** . However, we use the weighted mean to evaluate the **cluster** centre:

(Equation 7 omitted)

where q sub i is the number of patterns in the...

11/3,K/14 **(Item 8 from file: 15)**
DIALOG(R)File 15:ABI/Inform(R)
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00983241 96-32634
Design for manufacturabilty and time-to-market - Part 2: Some empirical findings
Youssef, Mohamed A
International Journal of Operations & Production Management v15n1 PP: 6-23 1995
ISSN: 0144-3577 JRNL CODE: IJO
WORD COUNT: 4902

...TEXT: such that high rating reflects shorter time-to-market.

Statistical analysis and results

Cluster analysis

Cluster analysis is a multivariate statistical technique usually used for **partitioning** a set of observations into a **number** of homogeneous **groups** . In this article, **cluster** analysis is used in two stages. The agglomerative algorithm of **clustering** procedure, of SPSSPC + (Version 5.0), with a complete linkage was used. The resulting dendogram showed that the data is best described by three **clusters** . Using this **number** of **clusters** as an input for subsequent analysis, a quick **cluster** procedure of the same package with **k - means** algorithm was run. Table II shows the final **cluster** **centres** and **number** of cases in each **cluster** . (Table II omitted)

Almost 56 per cent of the sample are characterized as having a...

11/3,K/15 **(Item 9 from file: 15)**
DIALOG(R)File 15:ABI/Inform(R)
(c) 2002 ProQuest Info&Learning. All rts. reserv.

00725133 93-74354
The Multiple Depot Vehicle Routing Problem with Backhauling
Min, Hokey; Current, John; Schilling, David

...TEXT: 1)-(5). The possible routes, X sub ijk , were determined using the
customer and vendor **clusters** generated in the previous stage. In **total** ,
there were 627 of these variables. The centroids of the **clusters** were
used to determine the intercluster distances. The centroid of each **cluster**
was obtained using the MacQueen's **k** - **means** **partitioning**
procedure.(25) The obtained centroids are given in Tables 2 and 3. These
centroid coordinates...

11/3,K/16   (Item 10 from file: 15)

ABSTRACT: In the field of pattern recognition and image processing, one of
the most popular **groups** of **clustering** techniques is based on the least
squared error (minimum variance) criterion. Comparison of the various
implementations of this method has shown that one of the best is the **K** -
means algorithm. A very large-scale integration (VLSI) systolic
architecture is presented for solving squared error **clustering** (SEC)
problems of arbitrary **size** with an array of fixed **size** . The array
design assumes that the data fed in the system have been subjected to the
dense to band matrix transformation by triangular block **partitioning** (DBT
transformation). A detailed architectural configuration for the hard **K** -
means algorithm is developed. The modularity and regularity of the system
architecture make it suitable for VLSI implementation. In the **K** - **means**
algorithm, the updating of the K **cluster** **centers** alternates with
reassignment of the data points to the **clusters** using a **classifier**
function until a halt criterion is satisfied.   ...

11/3,K/17   (Item 1 from file: 98)

  (USE FORMAT 7 FOR FULLTEXT)

TEXT:
...   towns in Ireland. Third, the similarity of correlograms was
analyzed to categorize the variables into **groups** of similar spatial
patterns. The Bonferroni significant correlograms were subjected to a
nonhierarchic **clustering** procedure (a **k** **means** **cluster** analysis) to
detect **clusters** of spatial patterns. The **number** of **clusters** to be
interpreted was determined following the method of Krzanowski and Lai
(1988). This method selects the best **cluster** **partition** so that the
pooled sum of squares within **groups** is minimized. Following Sokal,
Harding et al. (1989), correlograms allocated to each **k** **means** **cluster**
were averaged to provide a summary measure of the spatial patterns in these

data.
    The...

 11/3,K/18   **(Item 1 from file: 148)**
DIALOG(R)File 148:Gale Group Trade & Industry DB

11483115   SUPPLIER NUMBER: 57472166   (USE FORMAT 7 OR 9 FOR FULL TEXT)
Robustness properties of k means and trimmed k means.
Garcia-Escudero, Luis; Gordaliza, Alfonso
Journal of the American Statistical Association, 94, 447, 956(1)
Sept, 1999
ISSN: 0162-1459   LANGUAGE: English   RECORD TYPE: Fulltext; Abstract
WORD COUNT: 7452   LINE COUNT: 00607

...   medoids ((Phi)(x) = x, (Psi)(x) = sign(x)) have finite gross-error
sensitivity.
    b. Generalized **k   means** have infinite local-shift sensitivity
because of the discontinuities of the IF's at the **boundary** of the
clusters . Small shifts in the **boundary** of the **clusters** can cause the
estimators to change by relatively large **amounts** . Moreover, as in the
case of location M estimators, if the function (Psi) is

 11/3,K/19   **(Item 2 from file: 148)**
DIALOG(R)File 148:Gale Group Trade & Industry DB

10948467   SUPPLIER NUMBER: 54371078   (USE FORMAT 7 OR 9 FOR FULL TEXT)
**Advanced MFL signal analysis aids pipe corrosion detection.(Corrosion and
  Pipe Protection)(magnetic flux leakage)**
Haines, Harvey; Porter, Patrick C.; Barkdull, Lisa; Afzal, Muhammad; Lee,
Jun-Youl
Pipe Line & Gas Industry, 82, 3, 49(9)
March, 1999
ISSN: 1079-8765   LANGUAGE: English   RECORD TYPE: Fulltext
WORD COUNT: 5261   LINE COUNT: 00446

...   of wavelets as basis functions and has sets of wavelet function
nodes depending on the **number** of resolutions. At the coarsest level, the
centers are estimated using the **K - Means   clustering** algorithm.
    From the second resolution onward, a dyadic scheme is used to
determine the **centers** . The approach has one major advantage: the user has
control over the prediction accuracy level...

 11/3,K/20   **(Item 3 from file: 148)**
DIALOG(R)File 148:Gale Group Trade & Industry DB

10948259   SUPPLIER NUMBER: 54370474   (USE FORMAT 7 OR 9 FOR FULL TEXT)
The validity of collective climates.
Gonzalez-Roma, Vicente; Peiro, Jose M.; Lloret, Susana; Zornoza, Ana
Journal of Occupational and Organizational Psychology, 72, 1, 25(1)
March, 1999
ISSN: 0963-1798   LANGUAGE: English   RECORD TYPE: Fulltext; Abstract
WORD COUNT: 7820   LINE COUNT: 00710

...   the coefficient. 'A jump implies that two relatively dissimilar
clusters have been merged; thus the **number** of **clusters** prior to the
merger is the most probable solution' (Aldenderfer & Blashfield, 1984, p.
57).
    After a set of initial **clusters** had been selected in this way, a
non-hierarchical **k   means   clustering** procedure was used to improve the
results. Once an initial **partition** had been specified, the means
(centroids) of the **clusters** were computed, and Euclidean distances to all
 cluster means were calculated. Then cases were assigned to the nearest

cluster thus reducing the pooled...

11/3,K/21   (Item 4 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2002 The Gale Group. All rts. reserv.

05929879   SUPPLIER NUMBER: 13022559   (USE FORMAT 7 OR 9 FOR FULL TEXT)
Fairness in prospective payment: a clustering approach.
Stefos, Theodore; LaVallee, Nicole; Holden, Frank
Health Services Research, v27, n2, p239(23)
June, 1992
ISSN: 0017-9124   LANGUAGE: ENGLISH   RECORD TYPE: FULLTEXT
WORD COUNT: 7814   LINE COUNT: 00645

...   performed. As a first stage, Ward's hierarchical method was used to
select the appropriate **number** of **groups** and the initial hospital
partition to use as input into the second-stage **K - means** iterative
method. The **number** of **groups** in the first stage was selected based on
the point where the [R.sup.2] statistic changed by less than 5 percent.
        Variables with larger **magnitudes** and variances have a greater
influence on cluster outcomes. Therefore, variables in this study, which...
labor markets.
        All data are from the 1986 fiscal year. Hospital aggregate data from
a **total** of 159 VA hospitals were used in this analysis. The six
independent VA outpatient clinics were not included.
        RESULTS
        The results of the first-stage **grouping** (not detailed here) using
Ward's methodology indicated that a **partition** of the 159 VA facilities
into six hospital **groups** , determined from the [R.sup.2] criterion, would
be appropriate for the **K - means** second stage. The profiles of the six
groups from the **K - means** second stage with a comparison of **group**
means for several variables are presented in Tables 1, 2, and 3. The tables
appear to show a marked difference in hospital **groups** on the basis of
size , scope of services provided, and educational responsibilities. A
comparison of the group characteristics in Tables...

11/3,K/22   (Item 5 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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05196046   SUPPLIER NUMBER: 10929268   (USE FORMAT 7 OR 9 FOR FULL TEXT)
**The dimensionality of consumption emotion patterns and consumer
    satisfaction.**
Westbrook, Robert A.; Oliver, Richard L.
Journal of Consumer Research, v18, n1, p84(8)
June, 1991
ISSN: 0093-5301   LANGUAGE: ENGLISH   RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 5166   LINE COUNT: 00460

...   and Reilly 1983).
        Data Analysis
        A taxonomic analysis of consumer emotions was performed via a **k -
means** **cluster** analysis of subjects' standardized scores for the 10
DES-II measures. Using an average multiple random-seed initial **cluster**
centers , we examined two- **cluster** through 10- **cluster** solutions. On the
basis of interpretation, goodness of fit, and a desired minimum **cluster**
size of 10 percent of the sample, a five- **cluster** solution was chosen for
further analysis. Hierarchical **clustering** was also performed, and,
although both the hierarchial and **k - means** **clustering** solutions
produced comparable results, the latter were preferred inasmuch as they
yielded more compact and distinct **clusters** . The dimentionality of the
inter- **cluster** differences was then examined with discriminant analysis
that used the original DES-II emotion measures...

```
Set      Items    Description
S1        1248    KMEAN? OR KMEDIAN? OR KPROTOTYP? OR K()(MEAN? ? OR MEDIAN?
                  OR PROTOTYP?)
S2     1083146    CLUSTER? OR DATACLUSTER? OR GROUP? OR ORGANIZ? OR ORGANIS?
                  OR ARRANGE? OR CLASSIF?
S3     1179986    BOUNDAR? OR EDGE? OR LIMIT? OR LINE? OR PARTITION? OR BORD-
                  ER? OR DIVIDER?
S4      581909    CENTER? OR CENTRE? OR CENTRAL?
S5     1056891    SIZE? OR MAGNITUDE? OR NUMBER? OR AMOUNT? OR QUANTIT? OR T-
                  OTAL? ? OR COUNT OR COUNTS
S6          21    S1(S)S2(S)S3(S)S4(S)S5
S7          15    S1(5N)S2(5N)(S3 OR S4)(5N)S5
S8          11    (S6 OR S7) AND IC=G06F?
S9          11    IDPAT (sorted in duplicate/non-duplicate order)
S10         11    IDPAT (primary/non-duplicate records only)
File 348:EUROPEAN PATENTS 1978-2002/Sep W03
         (c) 2002 European Patent Office
File 349:PCT FULLTEXT 1983-2002/UB=20020912,UT=20020905
         (c) 2002 WIPO/Univentio
```

DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2002 European Patent Office. All rts. reserv.

01408757
A method for adapting a k-means text clustering to emerging data
Verfahren zum Anpassen einer K-fachen Textpartition an ankommende Daten
Methode pour adapter une partition de texte en K ensembles a des donnees
    emergentes
PATENT ASSIGNEE:
  International Business Machines Corporation, (200128), New Orchard Road,
    Armonk, NY 10504, (US), (Applicant designated States: all)
INVENTOR:
  Spangler, William Scott, 12840 Stevens Court, San Martin, CA 95046, (US)
LEGAL REPRESENTATIVE:
  Duscher, Reinhard, Dr. (94081), IBM Deutschland GmbH, Intellectual
    Property, Pascalstrasse 100, 70548 Stuttgart, (DE)
PATENT (CC, No, Kind, Date): EP 1191463 A2 020327 (Basic)
APPLICATION (CC, No, Date):   EP 2001122419 010920;
PRIORITY (CC, No, Date): US 669680 000926
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
  LU; MC; NL; PT; SE; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: **G06F-017/30**
ABSTRACT EP 1191463 A2

    A method and structure for clustering documents in datasets which
    include clustering first documents and a first dataset to produce first
    document classes, creating centroid seeds based on the first document
    classes, and clustering second documents in a second dataset using the
    centroid seeds, wherein the first dataset and the second dataset are
    related. The clustering of the first documents in the first dataset forms
    a first dictionary of most common words in the first dataset and
    generates a first vector space model by counting, for each word in the
    first dictionary, a number of the first documents in which the word
    occurs, and clusters the first documents in the first dataset based on
    the first vector space model, and further generates a second vector space
    model by counting, for each word in the first dictionary, a number of the
    second documents in which the word occurs. Creation of the centroid seeds
    includes classifying second vector space model using the first document
    classes to produce a classified second vector space model and determining
    a mean of vectors in each class in the classified second vector space
    model, the mean includes the centroid seeds.
ABSTRACT WORD COUNT: 194
NOTE:
  Figure number on first page: 1
LEGAL STATUS (Type, Pub Date, Kind, Text):
 Application: 020327 A2 Published application without search report
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200213	1375
SPEC A	(English)	200213	3080
Total word count – document A			4455
Total word count – document B			0
Total word count – documents A + B			4455

10/5/2   (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2002 European Patent Office. All rts. reserv.

01110765
Medical information processing system for supporting diagnosis
System zur Verarbeitung von medizinischen Daten zur Unterstutzung der
    Diagnose
Systeme de traitement d'informations medicales pour assistance diagnostique
PATENT ASSIGNEE:
  KABUSHIKI KAISHA TOSHIBA, (213130), 72, Horikawa-cho, Saiwai-ku,

Kawasaki-shi, Kanagawa⬤n 210-8572, (JP), (Applicant d⬤gnated
States: all)
INVENTOR:
  Taguchi, Katsuyuki, 3-145-63, Minamigouya, Nishinasuno-machi, Nasugun,
    Tochigi-ken, (JP)
  Yamada, Shinichi, 5-20-14, Midori, Minamikawachi-machi, Kawachi-gun,
    Tochigi-ken, (JP)
  Ema, Takehiro, 2-6-5, Shiroyama, Ootawara-shi, Tochigi-ken, (JP)
LEGAL REPRESENTATIVE:
  Blumbach, Kramer & Partner GbR (101302), Radeckestrasse 43, 81245 Munchen
  , (DE)
PATENT (CC, No, Kind, Date): EP 973116 A1 000119 (Basic)
APPLICATION (CC, No, Date):   EP 99119619 940228;
PRIORITY (CC, No, Date): JP 9339996 930301; JP 9348366 930309; JP 9384296
    930412; JP 93177859 930719; JP 93178934 930720; JP 93182319 930723
DESIGNATED STATES: DE; NL
RELATED PARENT NUMBER(S) - PN (AN):
  EP 616290 (EP 94102996)
INTERNATIONAL PATENT CLASS: **G06F-019/00**

ABSTRACT EP 973116 A1

    A medical information processing system for supporting diagnosis,
capable of displaying an original image and a minified image over the
original image without being interfered to each other, capable of optimal
man-power & time saving configurations and methods, capable of realizing
an optimal classifying technique for doctor's interpretation and
CAD-processed result, and capable of optimizing efficiency in forming
accurate interpretation report by using PACS in a mass survey. The system
includes: a detecting unit for detecting location of abnormality from a
first medical image in accordance with a predetermined algorithm: an
image forming unit for forming a second medical image in which a marker
indicating the location of the abnormality is overlapped; and a display
unit for displaying the first medical image and the second medical image
in an optimally efficient way.
ABSTRACT WORD COUNT: 133
NOTE:
  Figure number on first page: 9

LEGAL STATUS (Type, Pub Date, Kind, Text):
 Change: 000621 A1 Inventor information changed:.20000502
 Application: 20000119 A1 Published application with search report
 Examination: 20000119 A1 Date of request for examination: 19991004
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
     CLAIMS A (English)   200003   118
     SPEC A   (English)   200003   66430
Total word count - document A   66548
Total word count - document B   0
Total word count - documents A + B   66548

  10/5/3   (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01065229
A system for interactive organization and browsing of video
System zum interaktiven Organisieren und Uberfliegen von Videodaten
Systeme pour l'organisation interactive et la consultation rapide de
    donnees video
PATENT ASSIGNEE:
  SIEMENS CORPORATE RESEARCH, INC., (1621440), 755 College Road East,
    Princeton, New Jersey 08540, (US), (Applicant designated States: all)
INVENTOR:
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  Das, Madirakshi, 1040 North Pleasant Street, Apartment 100, Amherst, MA
    61002, (US)

LEGAL REPRESENTATIVE:
   Litchfield, Laura Marie et al (85541), Haseltine Lake & Co. Imperial
      House 15-19 Kingsway, London WC2B 6UD, (GB)
PATENT (CC, No, Kind, Date): EP 938054 A2 990825 (Basic)
APPLICATION (CC, No, Date): EP 99301308 990223;
PRIORITY (CC, No, Date): US 27637 980223
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
   LU; MC; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: **G06F-017/30**

ABSTRACT EP 938054 A2
   A system for interactively organizing and browsing video automatically
   processes video, creating a video table of contents (VTOC), while
   providing easy-to-use interfaces for verification, correction, and
   augmentation of the automatically extracted video structure. Shot
   detection, shot grouping and VTOC generation are automatically determined
   without making restrictive assumptions about the structure or content of
   the video. A nonstationary time series model of difference metrics is
   used for shot boundary detection. Color and edge similarities are used
   for shot grouping. Observations about the structure of a wide class of
   videos are used for the generating the table of contents. The use of
   automatic processing in conjunction with input from the user provides a
   meaningful video organization.
ABSTRACT WORD COUNT: 115
NOTE:
   Figure number on first page: 4

LEGAL STATUS (Type, Pub Date, Kind, Text):
 Withdrawal: 020410 A2 Date application deemed withdrawn: 20010901
 Application: 990825 A2 Published application without search report
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9934	1860
SPEC A	(English)	9934	8617
Total word count - document A			10477
Total word count - document B			0
Total word count - documents A + B			10477

 10/5/4   (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2002 European Patent Office. All rts. reserv.

01021386
Method and apparatus for data clustering
Verfahren und Gerat um Daten in Gruppen einzuteilen
Procede et dispositif pour grouper des donnees
PATENT ASSIGNEE:
   Hitachi, Ltd., (204145), 6 Kanda Surugadai 4-chome, Chiyoda-ku, Tokyo
      101-8010, (JP), (applicant designated states: DE;GB)
INVENTOR:
   Singh, Vineet, 10535 Cordova Road, Cupertino, CA 95014, (US)
   Ranka, Sanjay, 4830 NW 43rd Street No. K166, Gainesville, FL 32606, (US)
   Alsabti, Khaled, P.O.Box 86913, Riyadh 11632, (SA)
LEGAL REPRESENTATIVE:
   Strehl Schubel-Hopf & Partner (100941), Maximilianstrasse 54, 80538
      Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 913780 A2 990506 (Basic)
APPLICATION (CC, No, Date): EP 98120593 981030;
PRIORITY (CC, No, Date): US 962470 971031
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
   LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: **G06F-017/30**
ABSTRACT EP 913780 A2
   In order to reduce the total number of distance calculations required
   for clustering, a multidimensional search tree is formed so that each

node other than the root node corresponds to a subspace of a space to
which pattern vectors to be clustered belong (101(Fig. 2)). The nodes of
the tree is traversed sequentially to execute the following processing
for each node (200(Fig. 2)). It is judged, for each prototype of a
candidate set of prototypes, whether the prototype is unlikely to be
nearest the pattern vector belonging to the subspace (306(Fig. 4)). A
prototype unlikely to be nearest, if found, is eliminated from the
candidate set, so that the prototypes remaining in the candidate set is
used later on, when a nearest prototype to each of the pattern vectors
within the subspace is to be found (307(Fig. 4)).
ABSTRACT WORD COUNT: 139

LEGAL STATUS (Type, Pub Date, Kind, Text):
 Withdrawal: 020821 A2 Date of withdrawal of application: 20020605
 Application: 990506 A2 Published application (A1with Search Report
                          ;A2without Search Report)
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
      CLAIMS A (English) 9918   1390
      SPEC A   (English) 9918   8137
Total word count - document A   9527
Total word count - document B   0
Total word count - documents A + B   9527

 10/5/5   (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00923920   **Image available**
METHOD AND APPARATUS FOR DATA CLUSTERING
PROCEDE ET APPAREIL DE GROUPEMENT DE DONNEES
Patent Applicant/Assignee:
  PREDICTIVE NETWORKS INC, Suite 200, 689 Massachusetts Avenue, Cambridge,
    MA 02139, US, US (Residence), US (Nationality)
Inventor(s):
  ODDO Anthony Scott, 90 Wenham Street #3, Jamaica Plain, MA 02130, US,
Legal Representative:
  VALLABH Rajesh (et al) (agent), Hale and Dorr LLP, 60 State Street,
    Boston, MA 02109, US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200257958 A1 20020725 (WO 0257958)
  Application: WO 2002US1453 20020117 (PCT/WO US0201453)
  Priority Application: US 2001766377 20010119
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU
  CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
  KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE
  SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G06F-017/30**
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 5972

English Abstract
  A method and apparatus are provided for clustering data inputs into
  groups. The first data input is initially designated as center of a first
  group (12). Each other data input is successively analyzed to identify a
  group whose center is sufficiently close to that data input (16). If such
  a group is identified, the input is assigned to the identified group
  (20). If no such group is identified, a new group is created and the data

input is designated as t●center of the new group. The a●ysis of data
inputs is repeated until all data inputs have been assigned to groups.
Optionally, thereafter for optimal performance, for each data input, the
closest group center to that input is determined, and the data input is
assigned to the group having that center.

French Abstract
L'invention concerne un procede et un appareil servant a regrouper des
entrees de donnees dans des groupes. La premiere entree de donnees est
initialement designee comme centre d'un premier groupe (12). Les entrees
de donnees suivantes sont successivement analysees afin d'identifier un
groupe dont le centre est suffisamment proche de ladite entree de donnees
(16). Si un tel groupe est identifie, l'entree est attribuee audit groupe
(20) identifie. Si aucun groupe de ce genre n'est identifie, un nouveau
groupe est cree (24) et l'entree de donnees est designee comme centre du
nouveau groupe. L'analyse des entrees de donnees est repetee jusqu'a ce
que toutes les entrees de donnees soient attribuees a des groupes.
Eventuellement, aux fins d'une efficacite optimale, il s'agit de
determiner, pour chaque entree de donnees, quel est le centre de groupe
le plus proche, puis d'attribuer ladite entree de donnees au groupe dont
le centre est le plus proche.

Legal Status (Type, Date, Text)
Publication   20020725 A1 With international search report.
Publication   20020725 A1 Before the expiration of the time limit for
                         amending the claims and to be republished in the
                         event of the receipt of amendments.

10/5/6   (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00913751
**AN EXPERT SYSTEM FOR CLASSIFICATION AND PREDICTION OF GENETIC DISEASES, AND
    FOR   ASSOCIATION   OF   MOLECULAR   GENETIC   PARAMETERS   WITH   CLINICAL
    PARAMETERS**
**SYSTEME   EXPERT   POUR   LA   CLASSIFICATION   ET   LA   PREDICTION RELATIVES AUX
    MALADIES   GENETIQUES,   ET   POUR   L'ASSOCIATION DE PARAMETRES GENETIQUES
    MOLECULAIRES A DES PARAMETRES CLINIQUES**
Patent Applicant/Assignee:
  PHASE IT INTELLIGENT SOLUTIONS AG, Theodor-Heuss-Anlage 2, 68165 Mannheim
    , DE, DE (Residence), DE (Nationality), (For all designated states
    except: US)
Patent Applicant/Inventor:
  EILS Roland, Phase IT Intelligent Solutions AG, Theodor-euss- Anlage 2,
    68165 Mannheim, DE, DE (Residence), DE (Nationality), (Designated only
    for: US)
Legal Representative:
  VOSSIUS & PARTNER (agent), Siebertstrasse 4, 81675 Munich, DE,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200247007 A2 20020613 (WO 0247007)
  Application: WO 2001EP14407 20011207 (PCT/WO EP0114407)
  Priority Application: EP 2000126480 20001207
Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY
  BZ CA CH CN CO CR CU CZ DE DE (utility model) DK DK (utility model) DM DZ
  EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
  LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL
  TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G06F-019/00**
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description

Claims

●   ●

Fulltext Word Count: 14930

English Abstract
  The present invention is directed to methods, devices and systems for
  classifying genetic conditions, diseases, tumors etc., and/or for
  predicting genetic diseases, and/or for associating molecular genetic
  parameters with clinical parameters and/or for identifying tumors by gene
  expression profiles etc. The invention specifies such methods, devices
  and systems with the steps of providing molecular genetic data and/or
  clinical data, automatically classification, prediction, association
  and/or identification bata by means of a supervising machine learning
  system. There are further described methods making use of these steps and
  respective means.

French Abstract
  L'invention concerne des procedes, des dispositifs et des systemes
  permettant de classifier des etats genetiques, des maladies, des tumeurs,
  etc. et/ou d'etablir des predictions relatives aux maladies genetiques,
  et/ou d'associer des parametres genetiques moleculaires a des parametres
  cliniques et/ou d'identifier des tumeurs par le biais de profils
  d'expression genique, etc. L'invention concerne egalement des procedes,
  des dispositifs et des systemes reposant sur la sequence d'operations
  suivantes: presentation de donnees genetiques moleculaires et/ou
  cliniques, etablissement automatique de donnees de classification, de
  prediction, d'association et/ou d'identification par le biais d'un
  systeme d'apprentissage de machine de supervision. L'invention concerne
  par ailleurs des procedes relatifs a l'utilisation de ces operations, et
  des moyens correspondants.
Legal Status (Type, Date, Text)
Publication 20020613 A2 Without international search report and to be
                         republished upon receipt of that report.

 10/5/7   (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00887087   **Image available**
ANOMALY DETECTION SYSTEM AND A METHOD OF TEACHING IT
SYSTEME DE DETECTION D'ANOMALIE ET SON PROCEDE D'APPRENTISSAGE
Patent Applicant/Assignee:
  NOKIA CORPORATION, Keilalahdentie 4, FIN-02150 Espoo, FI, FI (Residence),
    FI (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
  HOGLUND Albert, Tammitie 18 A 11, FIN-00330 Helsinki, FI, FI (Residence),
    FI (Nationality), (Designated only for: US)
  HATONEN Kimmo, Kapytie 8 J 34, FIN-00650 Helsinki, FI, FI (Residence), FI
    (Nationality), (Designated only for: US)
  SORVARI Antti, Landbontie 35, FIN-01180 Ostersundom, FI, FI (Residence),
    FI (Nationality), (Designated only for: US)
Legal Representative:
  KOLSTER OY AB (agent), Iso Roobertinkatu 23, P.O. Box 148, FIN-00121
    Helsinki, FI,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200221242 A1 20020314 (WO 0221242)
  Application: WO 2001FI783 20010910 (PCT/WO FI0100783)
  Priority Application: FI 20001997 20000911
Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY
  BZ CA CH CN CO CR CU CZ CZ (utility model) DE DE (utility model) DK DK
  (utility model) DM DZ EC EE EE (utility model) ES FI FI (utility model)
  GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
  MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SK (utility
  model) SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-001/00
International Patent Class: G06F-015/18 ; G06N-003/08
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 3760

English Abstract
  A method for teaching an anomaly detecting mechanism in a system
  comprising observable elements (302), at least one of which has a
  periodic time-dependent behaviour, the anomaly detecting mechanism
  comprising a computerized learning mechanism (314). The method comprises
  assembling indicators (304) indicating the behaviour of the elements
  (302) and arranging the assembled indicators such that each observable
  element's indicators are assigned to the same input data component. The
  learning mechanism (314) is taught so that the input data of the learning
  mechanism comprises the input data components which are based on the
  assembled indicators (304). Points which approximate the input data are
  placed in the input space. A presentation of time (420 - 424) is
  incorporated into at least one input data component wherein the
  presentation of time is periodic, continuous and unambiguous within the
  period of the at least one element with periodic time-dependent
  behaviour.

French Abstract
  La presente invention concerne un procede permettant l'apprentissage d'un
  mecanisme de detection d'anomalie dans un systeme comprenant des elements
  observables (302), dont au moins l'un a un comportement periodique
  dependant du temps, le mecanisme de detection d'anomalie comprenant un
  mecanisme d'apprentissage informatise (314). Le procede comprend
  l'assemblage d'indicateurs (304) indiquant le comportement des elements
  (302) et la disposition des indicateurs assembles de sorte que les
  indicateurs de chaque element observable sont associes au meme element de
  donnees d'entree. L'apprentissage du mecanisme d'apprentissage (314) se
  fait de sorte que les donnees d'entree du mecanisme d'apprentissage
  comprennent les elements de donnees d'entree qui se basent sur les
  indicateurs assembles (304). Des points qui correspondent
  approximativement aux donnees d'entree sont places dans l'espace
  d'entree. Une presentation de temps (420 - 424) est incorporee a au moins
  un element de donnees d'entree, la presentation de temps etant
  periodique, continue et non ambigue a l'interieur de l'intervalle de
  temps des elements ayant un comportement periodique dependant du temps.

Legal Status (Type, Date, Text)
Publication 20020314 A1 With international search report.
Examination   20020620 Request for preliminary examination prior to end of
                       19th month from priority date

 10/5/8   (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00796920   **Image available**
METHODS OF GENETIC CLUSTER ANALYSIS
**METHODES RELATIVES A UNE ANALYSE TYPOLOGIQUE GENETIQUE ET UTILISATION DE
    CELLE-CI**
Patent Applicant/Assignee:
  GENSET, Intellectual Property Department, 24, rue Royale, F-75008 Paris,
    FR, FR (Residence), FR (Nationality), (For all designated states
    except: US)
Patent Applicant/Inventor:
  SCHORK Nicholas, 3185 Belvoir Blvd, Shaker Heights, OH 44122, US, US
    (Residence), US (Nationality), (Designated only for: US)
  SKIERCZYNSKI Boguslaw, 4775 Calligraphy Court, Oceanside, CA 92057, US,
    US (Residence), US (Nationality), (Designated only for: US)

Legal Representative:
  GENSET (commercial rep.), Intellectual Property Department, 24, rue
    Royale, F-75008 Paris, FR,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200129257 A2-A3 20010426 (WO 0129257)
  Application: WO 2000IB1632 20001020 (PCT/WO IB0001632)
  Priority Application: US 99161231 19991022; US 2000216897 20000707
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ
  DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
  LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG
  SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
  (OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G06F-019/00**
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 16524

English Abstract
  The present invention is primarily directed to methods of genetic cluster
  analysis for use in determining the homogeneity and/or heterogeneity of a
  population or sub-population. Determination of the heterogeneity or
  homogeneity of a population sample is important in many areas including
  DNA fingerprinting in forensics and population-based studies such as
  clinical trials, case-control studies of risk factors, and gene mapping
  studies.

French Abstract
  Cette invention a essentiellement trait a des methodes relatives a une
  analyse typologique genetique a utiliser pour determiner l'homogeneite
  et/ou l'heterogeneite d'une population ou d'une sous-population. La
  determination de l'homogeneite ou de l'heterogeneite d'un echantillon de
  population est importante dans de nombreux domaines, dont celui des
  empreintes genetiques a des fins judiciaires ainsi que celui d'etudes
  reposant sur la population, notamment des essais cliniques, des etudes
  cas-temoin de facteurs de risque et des etudes de cartographie genetique.

Legal Status (Type, Date, Text)
Publication 20010426 A2 Without international search report and to be
                        republished upon receipt of that report.
Examination   20010525 Request for preliminary examination prior to end of
                        19th month from priority date
Search Rpt   20020711 Late publication of international search report
Republication 20020711 A3 With international search report.

 10/5/9   (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00516666   **Image available**
A SCALABLE SYSTEM FOR CLUSTERING OF LARGE DATABASES
**SYSTEME A GEOMETRIE VARIABLE PERMETTANT DE GROUPER DE GRANDES BASES DE
    DONNEES**
Patent Applicant/Assignee:
  MICROSOFT CORPORATION,
Inventor(s):
  FAYYAD Usama,
  BRADLEY Paul S,
  REINA Cory,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 9948018 A1 19990923
  Application: WO 99US5759 19990316 (PCT/WO US9905759)

English Abstract
  In a data mining system (12), clusters are used to categorize data
  within each model. An initial set of estimates of the parameters of each
  model and each cluster are provided. A portion of the data in the
  database (10) is read from a storage medium and brought into a rapid
  access memory buffer (22). Data contained in the data buffer (22) is used
  to update the original guesses at the parameters of the model in each
  cluster over all models. Some of the data belonging to a cluster is
  summarized or compressed and stored as a reduced form of the data
  representing sufficient statistics of the data. If further data is needed
  to categorize the cluster, more data is gathered from the database (10)
  and used in combination with compressed data until a stopping criteria
  (140) is met.

French Abstract
  Dans un systeme d'exploitation de donnees (12), on utilise des groupes
  pour classer les donnees dans chaque modele. On prevoit un ensemble
  initial d'estimations des parametres pour chaque modele et chaque groupe.
  Une partie des donnees dans la base de donnees (10) est lue a partir d'un
  support de memorisation et envoyee dans une memoire tampon (22) rapide
  d'acces. Les donnees contenues dans la memoire tampon (22) sont utilisees
  pour mettre a jour les estimations initiales au niveau des parametres du
  modele dans chaque groupe tout au long des modeles. Certaines donnees
  appartenant a un groupe sont resumees ou comprimees et enregistrees sous
  forme reduite, ces donnees representant des statistiques suffisantes des
  donnees. Si d'autres donnees sont necessaires pour classer le groupe,
  davantage de donnees sont recueillies a partir de la base de donnees (10)
  et utilisees en combinaison avec les donnees comprimees jusqu'a ce qu'on
  puisse repondre aux criteres d'arret (140).

 10/5/10   (Item 10 from file: 349)

00504244   **Image available**
FAST IMAGE RETRIEVAL USING MULTI-SCALE EDGE REPRESENTATION OF IMAGES
REPERAGE RAPIDE D'IMAGES PAR REPRESENTATION A ECHELLES MULTIPLES DES
     CONTOURS D'UNE IMAGE

English Abstract
  An image retrieval system for retrieving images from a data base in

dependence upon the degree of correspondence with a user-input target image. The target image and each image in the data base are characterized by a vector of edge characteristics within each image. Retrieval is effected by a comparison of the characteristic vectors, rather than a comparison of the images themselves. To optimize performance, a set of characteristic vectors, at different levels of abstraction of the image, are associated with each data base image; images which are similar to the target image, at any level of abstraction, are retrieved. To further optimize the speed of search, the data base is partitioned into clusters, and the search is limited to the cluster most similar to the target image.

French Abstract
   Systeme de reperage d'images qui permet de reperer des images dans une base de donnees en fonction de leur degre de correspondance avec une image cible entree par un utilisateur. L'image cible et chaque image contenue dans la base de donnees sont caracterisees par un vecteur de caracteristiques des contours a l'interieur de chaque image. La recherche s'effectue par comparaison des vecteurs de caracteristiques plutot que par comparaison des images elles-memes. Afin d'optimiser les performances, un ensemble de vecteurs de caracteristiques, a differents niveaux d'abstraction de l'image, sont associes a chaque image de la base de donnees et les images qui sont similaires a l'image cible, a n'importe quel niveau d'abstraction, sont reperees. Afin d'optimiser encore davantage la vitesse de la recherche, la base de donnees est subdivisee en grappes et la recherche est limitee a la grappe qui ressemble le plus a l'image cible.

10/5/11   (Item 11 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00192027
INTEGRATED VEHICLE POSITIONING AND NAVIGATION SYSTEM, APPARATUS AND METHOD
SYSTEME, APPAREIL ET PROCEDE INTEGRES DE CALCUL DE POSITION ET DE NAVIGATION POUR VEHICULES
Patent Applicant/Assignee:
  CATERPILLAR INC,
  GUDAT Adam J,
  BRADBURY Walter J,
  CHRISTENSEN Dana A,
  CLOW Richard G,
  DEVIER Lonnie J,
  KEMNER Carl A,
  KLEIMENHAGEN Karl W,
  KOEHRSEN Craig L,
  KYRTSOS Christos T,
  LAY Norman K,
  PETERSON Joel L,
  RAO PRITHVI N,
  SCHMIDT Larry E,
  SENNOTT James W,
  SHAFFER Gary K,
  SHI WenFan,
  SHIN Dong Hun,
  SINGH Sanjiv J,
  STAFFORD Darrell E,
  WEINBECK Louis J,
  WEST Jay H,
  WHITTAKER William L,
  WU BaoXin,
Inventor(s):
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English Abstract
  A system (400) for positioning and navigating an autonomous vehicle
  (310) allows the vehicle (310) to travel between locations. Position
  information (432) is derived from global positioning system satellites
  (200, 202, 204, and 206) or other sources (624) when the satellites (200,
  202, 204, and 206) are not in the view of the vehicle (310). Navigation
  of the vehicle (310) is obtained using the position information (432),
  route information (414), obstacle detection and avoidance data (416), and
  on board vehicle data (908 and 910).

French Abstract
  Un systeme (400) de calcul de position et de navigation pour vehicules
  autonomes (310) permet a ce dernier (310) de se deplacer entre des
  points. Les informations de position (432) sont derivees de satellites
  (200, 202, 204 et 206) d'un systeme global de calcul de position, ou a
  partir d'autres sources (124) lorsque les satellites (200, 202, 204 et
  206) ne sont pas en vue du vehicule (310). Le vehicule (310) peut
  naviguer a l'aide des informations de position (432), d'informations de
  route (414), de donnees de detection et de contournement d'obstacles
  (416), et a l'aide des donnees a bord (908 et 910) du vehicule.

```
Set       Items    Description
S1            2    KMEAN? OR KMEDIAN? OR KPROTOTYP? OR K()(MEAN? ? OR MEDIAN?
                   OR PROTOTYP?)
S2        21702    CLUSTER? OR DATACLUSTER? OR GROUP? OR ORGANIZ? OR ORGANIS?
                   OR ARRANGE? OR CLASSIF?
S3        16081    BOUNDAR? OR EDGE? OR LIMIT? OR LINE? OR PARTITION? OR BORD-
                   ER? OR DIVIDER?
S4         9722    CENTER? OR CENTRE? OR CENTRAL?
S5        16440    SIZE? OR MAGNITUDE? OR NUMBER? OR AMOUNT? OR QUANTIT? OR T-
                   OTAL? ? OR COUNT OR COUNTS
S6            2    S1 NOT PY>2000
S7            2    S6 NOT PD>20001004
S8            2    S7 AND (S2 OR S3 OR S4 OR S5)
File 256:SoftBase:Reviews,Companies&Prods. 82-2002/Aug
         (c)2002 Info.Sources Inc
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00121171   DOCUMENT TYPE: Review

PRODUCT NAMES: KnowledgeSTUDIO 2.0 (704555)

TITLE: Angoss touts flexible framework
AUTHOR: MacMillan, Michael
SOURCE: Computerworld Canada,   v15 n21 p36(2) Oct 22, 1999
ISSN: 1484-9089
HOMEPAGE: http://www.lti.on.ca

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

REVISION DATE: 20000830

...comes with five decision tree algorithms, three neural net algorithms,
and one 'unsupervised' learning and **clustering** algorithm. The client or
standalone workstation runs on Windows 9x or NT, and the data...

...IV, ODBC, SAS, and SPSS. The data mining algorithms that are supported
include CHAID, SAID, **K - Means** and Entropy decision tree algorithms, as
well as multilayered perception, radial basis formation, and probabilistic
...

00110848   DOCUMENT TYPE: Review

PRODUCT NAMES: GIS (830278)

TITLE: Identify Data Patterns
AUTHOR: Berry, Joseph K
SOURCE: GIS World,   v11 n8 p26(2) Aug 1998
ISSN: 0897-5507
HOMEPAGE: http://www.gisworld.com

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

REVISION DATE: 19990830

...statistics, understanding data analysis, and finding spatial patterns.
Scatter plots of multiple data sets create **clusters** of similar
measurements. Spatial statistics extends analysis to geographic
environments. For example, if coordinates accompany...
...team chooses another area of the environment. Further analysis can show
a spatial association between **group** positioning and the nearness of the
teacher to each **group** . When conventional statistics are linked to spatial
analysis abilities, including proximity measurement, new knowledge can...

...system (GIS) users do not know data mining and knowledge procedures. To
find spatial patterns, **k - means clustering** can be used to
discretionally establish two **cluster   centers** in a data space used as an
example (the football players and the cheerleaders).

```
Set       Items    Description
S1          953    AU=(ZHANG B? OR ZHANG, B? OR HSU M? OR HSU, M? OR KLEYNER,
                   I? OR KLEYNER I?)
S2            1    S1 AND IC=G06F-007?
S3           29    S1 AND IC=G06F?
S4           29    IDPAT (sorted in duplicate/non-duplicate order)
S5           23    IDPAT (primary/non-duplicate records only)
File 347:JAPIO Oct 1976-2002/May(Updated 020903)
         (c) 2002 JPO & JAPIO
File 348:EUROPEAN PATENTS 1978-2002/Sep W02
         (c) 2002 European Patent Office
File 349:PCT FULLTEXT 1983-2002/UB=20020912,UT=20020905
         (c) 2002 WIPO/Univentio
File 350:Derwent WPIX 1963-2002/UD,UM &UP=200260
         (c) 2002  Thomson Derwent
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DIALOG(R)File 350:Derwent WPIX

014697854   **Image available**
WPI Acc No: 2002-518558/200255
XRPX Acc No: N02-410444
  **Distributed computing system has two dynamic software agents executed on
  different computers, which have action, message agenda, open server, and
  resource handlers along with network address and unique symbolic name**
Patent Assignee: CHEN Q (CHEN-I); CHUNDI P (CHUN-I); DAYAL U (DAYA-I); HSU
  M (HSUM-I)
Inventor: CHEN Q; CHUNDI P; DAYAL U; **HSU M**
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020062334	A1	20020523	US 98136768	A	19980819	200255	B

Priority Applications (No Type Date): US 98136768 A 19980819
Patent Details:

Patent No	Kind Lan Pg	Main IPC	Filing Notes
US 20020062334 A1	74	G06F-015/16	

Abstract (Basic): US 20020062334 A1
      NOVELTY - Two cloned dynamic software agents executed on different
  computers, have respective action, message, agenda, open server and
  resource handlers, along with a network address and a symbolic name
  which uniquely identify the agents. One agent is a clone of the other
  agent.
      DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the
  following:
      (1) Computer-implemented dynamic service provision method;
      (2) Computer-readable medium storing dynamic service provision
  program; and
      (3) Computer data signals.
      USE - Distributed computing system.
      ADVANTAGE - Enables effectively developing autonomous software
  agents with modifiable behaviors. Simplifies deployment of
  application-specific cooperative multiagent systems.
      DESCRIPTION OF DRAWING(S) - The figure shows the distributed
  computing system.
      pp; 74 DwgNo 1/13
Title Terms: DISTRIBUTE; COMPUTATION; SYSTEM; TWO; DYNAMIC; SOFTWARE; AGENT
  ; EXECUTE; COMPUTER; ACTION; MESSAGE; OPEN; SERVE; RESOURCE; HANDLE;
  NETWORK; ADDRESS; UNIQUE; SYMBOL; NAME
Derwent Class: T01
International Patent Class (Main): **G06F-015/16**
File Segment: EPI

DIALOG(R)File 350:Derwent WPIX

014643048   **Image available**
WPI Acc No: 2002-463752/200249
XRPX Acc No: N02-365587
  **Method for perceiving and visualising emotion contained in text used in
  messages in computer communications, comprises code representing an
  emotional status allocated to each sample sentence where priori
  probability is calculated**
Patent Assignee: DIGITAL AGENT INC (DIGI-N); HAN K (HANK-I); MOON H
  (MOON-I); ZHANG B (ZHAN-I)
Inventor: HAN K; MOON H; **ZHANG B**
Number of Countries: 096 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200244991	A1	20020606	WO 2001KR2048	A	20011127	200249	B

Priority Applications (No Type Date): KR 200072063 A 20001130
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
WO 200244991 A1 E 35 G06F-019/00
    Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
    CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN
    IS JP KE KG KP KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH
    PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
    Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
    IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

Abstract (Basic): WO 200244991 A1
        NOVELTY - A method for perceiving and visualizing emotion contained
    in a text is provided. A code representing an emotional status is
    allocated to each sample sentence. A priori probability of occurrence
    of sentences representing each emotional status is calculated . A code
    representing an emotional status is allocated to each word contained in
    the sentences. The probability of occurrence of the word in sentences
    representing the corresponding emotional status is calculated.
        DETAILED DESCRIPTION - The probability of each emotional status of
    an object sentence is then calculated by multiplying the a priori
    probability of status i with the probability of occurrence in status i
    of each word in the sentence, so that the emotional status yielding the
    highest probability is determined to represent the emotional status of
    the sentence. Expressions or punctuation marks capable as such of
    expressing emotions are processed separately in order to enhance the
    efficiency of the processing.
        USE - Method for perceiving and visualising emotion contained in a
    text.
        ADVANTAGE - Enables effective transmission of emotions in dialogues
    via communication using a chatting or messenger program. The method can
    rapidly and accurately analyze and visualize the emotional status of a
    text.
        DESCRIPTION OF DRAWING(S) - The drawing shows a flowchart showing a
    general process of emotions perception in accordance with the present
    invention.
        pp; 35 DwgNo 2/5
Title Terms: METHOD; VISUAL; EMOTIONAL; CONTAIN; TEXT; MESSAGE; COMPUTER;
  COMMUNICATE; COMPRISE; CODE; REPRESENT; EMOTIONAL; STATUS; ALLOCATE;
  SAMPLE; SENTENCE; PROBABILITY; CALCULATE
Derwent Class: T01
International Patent Class (Main): **G06F-019/00**
File Segment: EPI

 5/5/3   (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

014632479   **Image available**
WPI Acc No: 2002-453183/200248
XRPX Acc No: N02-357312
  **Navigating method for nodes within large web-based hierarchical
  hyperbolic space with multiple paths, involves selectively revealing
  secondary paths among currently displayed nodes**
Patent Assignee: HEWLETT-PACKARD CO (HEWP)
Inventor: DAYAL U; HAO M C; **HSU M** ; KRUG A
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
US 6377287   B1 20020423 US 99294542   A   19990419 200248   B

Priority Applications (No Type Date): US 99294542 A 19990419
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
US 6377287   B1   14 G06F-003/14

Abstract (Basic): US 6377▮ B1
        NOVELTY - Secondary paths (60) among currently displayed nodes (20)
    are selectively revealed based on the identification of a multi-path
    node during the navigation of the displayed nodes. The secondary paths
    which extend from the identified multi-path nodes are also revealed.
        DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the
    following:
        (a) a navigation enabling method;
        (b) a node navigating system.
        USE - For navigating nodes within large web-based hierarchical
    hyperbolic space with multiple paths in organizational charts or
    Internet resources.
        ADVANTAGE - Allows navigation of nodes while maintaining simplicity
    of nodes organized along parent and child relationships.
        DESCRIPTION OF DRAWING(S) - The figure shows the graph of
    hyperbolic tree.
        Nodes (20)
        Secondary paths (60)
        pp; 14 DwgNo 3/11
Title Terms: NAVIGATION; METHOD; NODE; WEB; BASED; HIERARCHY; HYPERBOLIC;
   SPACE; MULTIPLE; PATH; SELECT; REVEAL; SECONDARY; PATH; CURRENT; DISPLAY;
   NODE
Derwent Class: T01
International Patent Class (Main): **G06F-003/14**
File Segment: EPI

 5/5/4   (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

014552036
WPI Acc No: 2002-372739/200241
XRPX Acc No: N02-291265
   Chinese phonetic entry method
Patent Assignee: ZHANG B (ZHAN-I)
Inventor: **ZHANG B**
Number of Countries: 001   Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
CN 1180859   A   19980506 CN 96118778   A   19961018 200241 B

Priority Applications (No Type Date): CN 96118778 A 19961018
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
CN 1180859   A   G06F-003/023

Abstract (Basic): CN 1180859 A
        NOVELTY - A Chinese-character speech typing method using
    pronunciation as units and phonetic letters features that each phonetic
    keystroke on used typing keyboard is related to two keys, the first
    press represents the first or the second keys of initial consonant and
    the second press represents the first the second keys of vowel, so
    their combination can represent 4 tones. Two keystrokes can complete
    speech typing. Its advantages are high typing speed and convenient
    operation.
        DwgNo 0/0
Title Terms: CHINESE; PHONETIC; ENTER; METHOD
Derwent Class: T01; T04
International Patent Class (Main): **G06F-003/023**
File Segment: EPI

 5/5/5   (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

014495396   **Image available**

Tree structure constructing system for supply chain management, includes subprocess for formatting retrieved data in defined tree structure
Patent Assignee: ZHANG B (ZHAN-I)
Inventor: **ZHANG B**
Number of Countries: 001   Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CA 2312597	A1	20020105	CA 2312597	A	20000705	200236	B

Priority Applications (No Type Date): CA 2312597 A 20000705
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CA 2312597	A1	E	13	G06F-017/30	

Abstract (Basic): CA 2312597 A1
        NOVELTY - A document type definition (DTD) document with tree
    structure is defined. The document type definition consists of
    retrieved data and a subprocess for formatting the retrieved data in
    the defined tree structure and generate a document in hypertext markup
    language format.
        USE - For use in business systems like dynamic content management,
    supply chain management, electronic data interchange, e-commerce web
    sites, database publishing, database middleware and query utility
    programs. Also for data integration, data conversion and data
    interchange.
        ADVANTAGE - Construction of output data in tree structure in XML
    format eliminates data redundancy and is more readable. Transformation
    of retrieved data to other formats or databases is done without losing
    their structure and relationships.
        DESCRIPTION OF DRAWING(S) - The figure shows the sample of tree
    structure of a complex query and the properties for one of the nodes.
        pp; 13 DwgNo 1/3
Title Terms: TREE; STRUCTURE; CONSTRUCTION; SYSTEM; SUPPLY; CHAIN;
  MANAGEMENT; FORMAT; RETRIEVAL; DATA; DEFINE; TREE; STRUCTURE
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
International Patent Class (Additional): **G06F-017/21**
File Segment: EPI

 5/5/6   (Item 6 from file: 350)
  Method for creating electronic wholesale market
Patent Assignee: ZHANG B (ZHAN-I)
Inventor: **ZHANG B**
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CN 1328301	A	20011226	CN 2000111183	A	20000610	200231	B

Priority Applications (No Type Date): CN 2000111183 A 20000610
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CN 1328301	A			G06F-017/60	

Abstract (Basic): CN 1328301 A
        NOVELTY - A method for creating an electronic wholesale market
    based on Internet includes creating a central database, which can
    communicated to the electronic bank and several wholesale market over
    INTERNET/INTERNET network. The domain name and IP address of said
    central database is public to whole society and can provide WWW service

with relative page and form. Said electronic bank and wholesale market
are equipped with broadband data link and high-speed routing switch.
Its advantages are high efficiency and low cost.
       DwgNo 0/0
Title Terms: METHOD; ELECTRONIC; MARKET
Derwent Class: T01
International Patent Class (Main): G06F-017/60
File Segment: EPI

  5/5/7   (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013891008
WPI Acc No: 2001-375221/200140
XRPX Acc No: N01-274604
  Chinese voice coding method and keyboard and electronic talking device
Patent Assignee: ZHANG B (ZHAN-I)
Inventor: ZHANG B
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
CN 1156274   A   19970806 CN 95113781   A   19951115 200140 B

Priority Applications (No Type Date): CN 95113781 A 19951115
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
CN 1156274   A   G06F-003/023

Abstract (Basic): CN 1156274 A
       NOVELTY - The device uses the pronunciation of Chinese character as
    unit to input and fetch. In accordance with the scheme for the Chinese
    Phonetic Alphabet, the Chinese character is inputted by three keys, and
    this method is used in the electronic talker, and the dialogue is
    directly proceeded by the Chinese Phonetic Alphabet.
       USE - To input and fetch Chinese characters
       ADVANTAGE - Amount of keying for input is decreased, there is no
    superimposed coding, the searching is quick, the construction of the
    keyboard is simple, words expression is quick and the operation is
    convenient.
       DwgNo 0/0
Title Terms: CHINESE; VOICE; CODE; METHOD; KEYBOARD; ELECTRONIC; TALK;
  DEVICE
Derwent Class: T01; T04; U21; W04
International Patent Class (Main): G06F-003/023
International Patent Class (Additional): G06F-017/00
File Segment: EPI

  5/5/8   (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013719069
WPI Acc No: 2001-203299/200121
XRAM Acc No: C01-060474
XRPX Acc No: N01-145141
  Equipment and process for layer manufacture
Patent Assignee: ZHONG W (ZHON-I)
Inventor: HUANG W; ZHANG B ; ZHONG W
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
CN 1270883   A   20001025 CN 99111576   A   19990818 200121 B

Priority Applications (No Type Date): CN 99111576 A 19990818
Patent Details:

Patent No   Kind Lan Pg   M▊▊h IPC   Filing Notes
CN 1270883   A   B29C-041/02

Abstract (Basic): CN 1270883 A
        NOVELTY - A new layering manufacture process includes following
    steps: operate material forming subsystem to spray selected liquid
    component and solid component in preset ratio; use the object
    supporting platform near the material forming subsystem to accept
    deposited material; form the first layer of the formed material through
    relative motion of forming subsystem to the object supporting platform
    in X-Y plane and Z-direction during deposition; and repeat the above
    steps to form three-dimensional object. The steps are controlled by
    means of a computer. The system can produce color object and supply
    support structure for un-supported object part. The present invention
    has high efficiency and high precision.
        DwgNo 0/0
Title Terms: EQUIPMENT; PROCESS; LAYER; MANUFACTURE
Derwent Class: A32; T01; X25
International Patent Class (Main): B29C-041/02
International Patent Class (Additional): B29C-067/00; **G06F-017/40**
File Segment: CPI; EPI

   5/5/9   (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013483109   **Image available**
WPI Acc No: 2000-655052/200063
XRPX Acc No: N00-485469
   **Information storing and updating method for describing data traffic on
   network, involves updating each record in table for which all portions of
   its identifier matches all portions of known data value**
Patent Assignee: SHOMITI SYSTEMS INC (SHOM-N)
Inventor: CUPPETT J W; **HSU M A** ; LEONG R C
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6098157	A	20000801	US 9866803	A	19980424	200063	B

Priority Applications (No Type Date): US 9866803 A 19980424
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6098157	A		14	G06F-012/00	

Abstract (Basic): US 6098157 A
        NOVELTY - The read portion of identifiers of different records of
    table are interleaved. The interleaved read portions of identifiers of
    records of table are compared with corresponding portion of known data
    value. Only if they match with each other, next read portion of
    identifiers of different records of table are interleaved and compared
    with corresponding next portion of known data value to update each
    record.
        USE - For storing and updating statistical information in table
    describing data traffic on computer network e.g. LAN.
        ADVANTAGE - Stores and updates information in table fastly and
    simply by reducing number of future reads necessary for locating
    indexed addresses and updating the table entries.
        DESCRIPTION OF DRAWING(S) - The figure shows flow diagram of
    storing and updating method of statistical information in table.
        pp; 14 DwgNo 8/8
Title Terms: INFORMATION; STORAGE; UPDATE; METHOD; DESCRIBE; DATA; TRAFFIC;
  NETWORK; UPDATE; RECORD; TABLE; PORTION; IDENTIFY; MATCH; PORTION; DATA;
  VALUE
Derwent Class: T01; W01
International Patent Class (Main): **G06F-012/00**
International Patent Class (Additional): **G06F-007/00**
File Segment: EPI

DIALOG(R)File 350:Derwent WPIX

013259534   **Image available**
WPI Acc No: 2000-431417/200037
XRPX Acc No: N00-321965
  **Data record correlating method for organizing information in Internet
  involves presenting processed data records in graphical fashion relative
  to time axis, to create expanded display related by connections lines**
Patent Assignee: TECHNOLOGY ENABLING CO LLC (TECH-N)
Inventor: CHIU L K; HADZIMA J G; HARRISS T D; LEUNG C; MORKEL A; SPRAGUE J;
  TOONG H; **ZHANG B**
Number of Countries: 090 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200034896	A1	20000615	WO 99US28657	A	19991206	200037	B
AU 200031092	A	20000626	AU 200031092	A	19991206	200045	
EP 1129417	A1	20010905	EP 99965107	A	19991206	200151	
			WO 99US28657	A	19991206		

Priority Applications (No Type Date): US 98111112 P 19981204; US 98111111 P
  19981204
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200034896	A1	E	31	G06F-017/30	

    Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN
    CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
    KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE
    SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
    Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
    IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200031092	A			G06F-017/30	Based on patent WO 200034896
EP 1129417	A1	E		G06F-017/30	patent WO 200034896
					Based on patent WO 200034896

    Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI
    LU MC NL PT SE

Abstract (Basic): WO 200034896 A1
      NOVELTY - Data records are processed and combined in a graphical
    fashion relative to time axis, in order to create an expanded display
    set depicting relationship indicated by connections lines. The time
    axis is scalable throughout the entire time range and independently
    scalable across and within multiple subtime ranges. The various search
    parameters are thus represented by employing colors, shapes or patterns
      DETAILED DESCRIPTION - The input parameters which are descriptive
    of the fields in a data record are defined and the databases of the
    data record are searched. The captured databases to create the working
    set is augmented. Combined and processed data records which are
    presented in a graphical fashion relative to time axis creates an
    expanded display set indicated by connections. The connectors are lines
    calculated and placed to minimize amount of crossing and length which
    connect data records. The shape is so as to minimize overlapping and
    total space required.
      USE - For organizing information in Internet
      ADVANTAGE - The graphical depiction is presented as two dimensional
    image and is capable of being developed to n dimensional images. The
    topic of interest of the user is identified within the targeted
    databases.
      DESCRIPTION OF DRAWING(S) - The figure shows functional block
    diagram of data organizing system.
      pp; 31 DwgNo 1/4
Title Terms: DATA; RECORD; CORRELATE; METHOD; INFORMATION; PRESENT; PROCESS
  ; DATA; RECORD; GRAPHICAL; FASHION; RELATIVE; TIME; AXIS; EXPAND; DISPLAY
  ; RELATED; CONNECT; LINE
Derwent Class: T01

5/5/11   (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012891489
WPI Acc No: 2000-063324/200006
XRPX Acc No: N00-049576
  Keyboard with multidirectional and multiple-contact signal input keys
Patent Assignee: ZHANG B (ZHAN-I)
Inventor: **ZHANG B**
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CN 1230713	A	19991006	CN 98107158	A	19980327	200006	B

Priority Applications (No Type Date): CN 98107158 A 19980327
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CN 1230713	A		1	G06F-003/023	

Abstract (Basic): CN 1230713 A
        NOVELTY - The present invention and opens a new thinking of
    utilizing multidirectional motion of fingers to operate the ''keyboard
    with multidirectional and multiple contact keys''. USE - For use as a
    computer keyboard, suitable for the blind.
        ADVANTAGE - The fingers complete the typing in computer without
    leaving the keys. Compared with available operation methods is more
    accurate and faster.
        Dwg.0
Title Terms: KEYBOARD; MULTIDIRECTIONAL; MULTIPLE; CONTACT; SIGNAL; INPUT;
  KEY
Derwent Class: S05; T01; T04
International Patent Class (Main): **G06F-003/023**
File Segment: EPI

5/5/12   (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012289091   **Image available**
WPI Acc No: 1999-095197/199908
XRPX Acc No: N99-069260
  **Barcode scanner system for PC - includes connector for selectively
  connecting input port of CPU with interface unit of scanner that has
  transmission gates for selective coupling of datalines as well as
  clocklines between scanner keyboard**
Patent Assignee: OPTICON INC (OPTI-N)
Inventor: CRISCITO H V; **ZHANG B** ; ZHENG X
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5854945	A	19981229	US 97781345	A	19970121	199908	B

Priority Applications (No Type Date): US 97781345 A 19970121
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5854945	A		13	G06F-013/00	

Abstract (Basic): US 5854945 A
        The system includes a Y-shaped cable (65) with one end connected to
    a scanner input-output port (12) through a connector (65a) another end
    connected to input-output port (24) of CPU of computer through
    connector (65c). Powerline (71c) from computer is connected to power

line (71a) of scanner ● d power line (71b) of keyboard. ● clockline
(73c) from computer is connected to clock line (73a) of scanner and
data line (74a) from computer input-output port is interconnected to
clockline (74a) of scanner from transmitting data inbetween.
    The scanner has a main scanner section (46) comprising key board
detect logic section (62) to detect presence of any external keyboard
signals. An interface circuit (25a) of the scanner comprises
transmission gates (TG1,TG2) for selectively coupling clock line,
keyboard data line of scanner to CPU of computer.
    USE - For desktop or laptop computer.
    ADVANTAGE - Increases decoded data transmission reliably. Offers
bidirectional data transfer between CPU and scanner. Prevents loss of
data.
    Dwg.6/6
Title Terms: SCAN; SYSTEM; CONNECT; SELECT; CONNECT; INPUT; PORT; CPU;
  INTERFACE; UNIT; SCAN; TRANSMISSION; GATE; SELECT; COUPLE; WELL; SCAN;
  KEYBOARD
Derwent Class: T01
International Patent Class (Main): **G06F-013/00**
File Segment: EPI

5/5/13   (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011778173   **Image available**
WPI Acc No: 1998-195083/199818
XRPX Acc No: N98-154463
  **Computer chip heat sink - has screening plate provided by diamond mesh
  formed from heat conductive metal wires of rectangular cross-section.**
Patent Assignee: HSU M H (HSUM-I); HUA H M (HUAH-I)
Inventor: **HSU M H** ; HUA H M
Number of Countries: 003 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 29801205	U1	19980326	DE 98U2001205	U	19980126	199818	B
FR 2773940	A3	19990723	FR 98642	A	19980122	199936	
DE 19802854	C1	19990916	DE 1002854	A	19980126	199942	N
US 5960863	A	19991005	US 984029	A	19980107	199948	N

Priority Applications (No Type Date): DE 98U2001205 U 19980126; DE 1002854
  A 19980126; US 984029 A 19980107
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 29801205	U1		17	H01L-023/34	
FR 2773940	A3			H05K-007/20	
DE 19802854	C1			H01L-023/367	
US 5960863	A			F28F-003/02	

Abstract (Basic): DE 29801205 U
    The heat sink is provided by a metal mesh made of a metal with good
heat conduction characteristics. The parallel undulating mesh wires
(11) are coupled together at their points of contact, to provide a
diamond mesh screening plate (1). The mesh wires can be formed from a
rectangular cross-section metal band, with a number of overlapping
screening plates secured to a base plate (3) of a heat conductive
material via corner fixing posts (31).
    USE - For heat dissipation from central processing unit or IC.
    ADVANTAGE - Use of metal mesh provides lightweight heat sink with
large surface area for effective heat dissipation.
    Dwg.4/8
Title Terms: COMPUTER; CHIP; HEAT; SINK; SCREEN; PLATE; DIAMOND; MESH;
  FORMING; HEAT; CONDUCTING; METAL; WIRE; RECTANGLE; CROSS; SECTION
Derwent Class: Q78; T01; U11; U13; V04
International Patent Class (Main): F28F-003/02; H01L-023/34; H01L-023/367;
  H05K-007/20
International Patent Class (Additional): F28D-009/04; F28F-003/06;

5/5/14   (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011373778
WPI Acc No: 1997-351685/199733
XRPX Acc No: N97-291411
  Method for inputting Chinese by sound code computer keyboard
Patent Assignee: ZHANG B (ZHAN-I)
Inventor: **ZHANG B**
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
CN 1108400   A   19950913 CN 94102202   A   19940309 199733   B

Priority Applications (No Type Date): CN 94102202 A 19940309

Abstract (Basic): CN 1108400 A
     The Chinese character input method is based on the pronunciation of
     the Chinese character and is named pronunciation code method; the 26
     letter keys on computer keyboard are assigned to corresponding 52
     notes, the pronunciation of Chinese character can be input from ''two
     strikes of key'', besides, four tone keysare added, the present method
     uses ''two strikes of key add one tone'' to display the characters with
     same pronunciation, and then selects a required one.
     Dwg.0/1
Title Terms: METHOD; INPUT; CHINESE; SOUND; CODE; COMPUTER; KEYBOARD
Derwent Class: T01; T04
International Patent Class (Main): **G06F-003/023**
File Segment: EPI

5/5/15   (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011267867   **Image available**
WPI Acc No: 1997-245770/199723
XRPX Acc No: N97-202641
  **Two-key, phonetic and four-tone Chinese character input method for
  computer keyboard**
Patent Assignee: ZHANG B (ZHAN-I)
Inventor: **ZHANG B**
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
CN 1100214   A   19950315 CN 93118954   A   19930907 199723   B

Priority Applications (No Type Date): CN 93118954 A 19930907
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
CN 1100214   A   G06F-003/023

Abstract (Basic): CN 1100214 A
     The Chinese-character four-tone typing method is based on
     pronunciation and one Chinese character is represented by two keys, one
     for vowel and another for consonant. The characters with same vowel,
     same consonant and same tone are displayed on screen to shorten search
     time. It features easy learning and fast operation.
     Dwg.1
Title Terms: TWO; KEY; PHONETIC; FOUR; TONE; CHINESE; CHARACTER; INPUT;
  METHOD; COMPUTER; KEYBOARD
Derwent Class: T01; T04; U21
International Patent Class (Main): **G06F-003/023**

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5/5/16   (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011249312
WPI Acc No: 1997-227215/199721
XRPX Acc No: N97-187800
    Profile phonetic compound code
Patent Assignee: ZHANG B (ZHAN-I)
Inventor: **ZHANG B**
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
CN 1098525   A   19950208 CN 94112196   A   19940608 199721   B

Priority Applications (No Type Date): CN 94112196 A 19940608
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
CN 1098525   A   G06F-003/023

Abstract (Basic): CN 1098525 A
        The present invention relates to a profile and sound combined
    Chinese character coding method. It uses the most-basic profile-sound
    method for creating word of Chinese character as basis, and decomposes
    the basic strokes and radicals by which the Chinese characters are
    formed and induces them to form 74 word radicals respectively belonged
    to 10 large classes and represented by ten figures of 0-9. Said
    invention can make separate word coding and coding of words and
    expressions, and the former uses numeral codes as main, and uses
    alphabet codes as auxiliary, and the latter uses alphabet codes as
    main, and uses numeral codes as auxiliary, and its code length is 4
    bits. Its coding regulation is simple and clearly understand, easy to
    learn and memorize, and its operation is convenient.
Title Terms: PROFILE; PHONETIC; COMPOUND; CODE
Derwent Class: T04; U21
International Patent Class (Main): **G06F-003/023**
File Segment: EPI

5/5/17   (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

011249121   **Image available**
WPI Acc No: 1997-227024/199721
XRPX Acc No: N97-187694
    **Chinese-character key-in using modern standard Chinese pronunciation –
    involves keying phonetic Chinese character along with ones whose phonetic
    pronounciations are displayed on screen**
Patent Assignee: ZHANG B (ZHAN-I)
Inventor: **ZHANG B**
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
CN 1098208   A   19950201 CN 93108844   A   19930726 199721   B

Priority Applications (No Type Date): CN 93108844 A 19930726
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
CN 1098208   A   1 G06F-003/023

Abstract (Basic): CN 1098208 A
        The Chinese-character entering system is based on pronunciation.
    The first keying is the beginning phonetic character of a Chinese
    character and all the Chinese characters whose pronunciation begins

with the phonetic cha●cter show on screen. Then a pho●tic
representation key is pressed to show all the Chinese homophones on
screen.
    ADVANTAGE - Does not require analysis of character structure, so
easy learning and use.
    Dwg.1/1
Title Terms: CHINESE; CHARACTER; KEY; MODERN; STANDARD; CHINESE; PRONOUNCED
 ; KEY; PHONETIC; CHINESE; CHARACTER; PHONETIC; DISPLAY; SCREEN
Derwent Class: T01; T04
International Patent Class (Main): **G06F-003/023**
File Segment: EPI

  5/5/18   (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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010457423   **Image available**
WPI Acc No: 1995-358742/199546
XRPX Acc No: N95-266555
  **Computer system for audio and video output - has local memory with
  specified region for emulating registers and communication region for
  transmitting messages.**
Patent Assignee: SIGMA DESIGNS INC (SIGM-N)
Inventor: **HSU M** ; LE CORNEC Y; NGUYEN J T
Number of Countries: 060 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9527243	A1	19951012	WO 95US3847	A	19950329	199546	B
AU 9521988	A	19951023	AU 9521988	A	19950329	199605	
US 5598576	A	19970128	US 94219841	A	19940330	199710	
US 5797029	A	19980818	US 94219841	A	19940330	199840	
			US 97786295	A	19970122		
US 6175880	B1	20010116	US 94219841	A	19940330	200106	
			US 97786295	A	19970122		
			US 98135151	A	19980817		
US 6412024	B1	20020625	US 98135151	A	19980817	200246	N
			US 2000672168	A	20000927		

Priority Applications (No Type Date): US 94219841 A 19940330; US 97786295 A
  19970122; US 98135151 A 19980817; US 2000672168 A 20000927
Cited Patents: 1.Jnl.Ref; US 4414620; US 4447873; US 4663730; US 4901232;
  US 5276684; US 5276807; US 5276864; US 5283883
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9527243	A1		26	G06F-003/16	

    Designated States (National): AM AT AU BB BG BR BY CA CH CN CZ DE DK EE
    ES FI GB HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW NL NO NZ PL
    PT RO RU SD SE SG SI SK TJ TM UA UG US UZ VN
    Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL
    OA PT SE

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
AU 9521988	A			G06F-003/16	Based on patent WO 9527243
US 5598576	A		9	G06F-015/02	
US 5797029	A			G06F-015/02	Cont of application US 94219841
					Cont of patent US 5598576
US 6175880	B1			G06F-015/02	Cont of application US 94219841
					Cont of application US 97786295
					Cont of patent US 5598576
					Cont of patent US 5797029
US 6412024	B1			G06F-015/40	Cont of application US 98135151
					Cont of patent US 6175880

Abstract (Basic): WO 9527243 A
    The computer system includes a system bus, which has a processor, a
  system memory and an audio output coupled to it. A bus interface
  element (201) coupled also to the system bus, passes commands and data
  to and from the processor. A digital signal processor (202) is coupled
  to the interface element for interpreting and executing instructions.

The DSP also sends acknowledge signals to the interface element upon
completion of a command.
    A local memory coupled to the interface element and the digital
signal processor, has a communication area. The interface element
writes to or reads from the communication area. The digital signal
processor reads from and writes to the communication area in response
to commands.
    USE/ADVANTAGE - For personal computer. Compatible with single
command interface. Does not require use of physical registers due to
simulation. Fast and easy to upgrade. Less wastage of computing power.
    Dwg.2/3
Title Terms: COMPUTER; SYSTEM; AUDIO; VIDEO; OUTPUT; LOCAL; MEMORY;
  SPECIFIED; REGION; EMULATION; REGISTER; COMMUNICATE; REGION; TRANSMIT;
  MESSAGE
Derwent Class: T01
International Patent Class (Main): **G06F-003/16 ; G06F-015/02 ;**
  G06F-015/40
International Patent Class (Additional): **G06F-013/00**
File Segment: EPI

 5/5/19   (Item 19 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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010344501   **Image available**
WPI Acc No: 1995-246589/199532
XRPX Acc No: N95-191491
  **Computer system with file transform mechanism - uses data storage
  sub-system to store blocks of data in two data areas and processor to
  execute instructions implementing operating system and application
  program in each data area**
Patent Assignee: HSU M S C (HSUM-I); HSU M S (HSUM-I)
Inventor: **HSU M S C ; HSU M S**
Number of Countries: 002 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9518496	A1	19950706	WO 94US14486	A	19941215	199532	B
AU 9514025	A	19950717	AU 9514025	A	19941215	199544	
US 5584023	A	19961210	US 93175192	A	19931227	199704	

Priority Applications (No Type Date): US 93175192 A 19931227
Cited Patents: US 4588991; US 4780905; US 5007082; US 5052040; US 5113442;
  US 5175852
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9518496	A1	E	46	H04L-009/00	
AU 9514025	A			H04L-009/00	Based on patent WO 9518496
US 5584023	A		17	H04L-009/32	

Abstract .(Basic): WO 9518496 A
    The computer system (10) includes a file transform mechanism e.g.
encryption, compression, encoding, translation and conversion, a file
storage sub-system (18,22), a data storage sub system (16) for storing
blocks of data in first and second logical data areas and a processor
(12) for executing instructions implementing an operating system in the
first logical data area and an application program in the second data
area.
    The processor includes ·a transform mechanism for transforming a
predetermined block of data in the first logical data area separately
from any other block of data, a request mechanism for selecting the
predetermined block of data to be operated on, and an interface that
controls the transfer of the predetermined block fo data between the
file storage sub-system and the data storage sub-system, and between
the two data rates, transforming the data as required.
    USE/ADVANTAGE - Extension system for multi-tasking computer system
with secure, block-oriented file service mechanism used transparently
within operating system. Provides secure file encryption mechanism

within operating syst● at highest control level while●aintains full
compatibility with multi-tasking and multi-user operating system
process inheritance mechanisms.
       Dwg.1/5B
Title Terms: COMPUTER; SYSTEM; FILE; TRANSFORM; MECHANISM; DATA; STORAGE;
  SUB; SYSTEM; STORAGE; BLOCK; DATA; TWO; DATA; AREA; PROCESSOR; EXECUTE;
  INSTRUCTION; IMPLEMENT; OPERATE; SYSTEM; APPLY; PROGRAM; DATA; AREA
Derwent Class: T01; W01
International Patent Class (Main): H04L-009/00; H04L-009/32
International Patent Class (Additional): **G06F-009/44** ; **G06F-012/14** ;
  H03M-007/30
File Segment: EPI

 5/5/20   (Item 20 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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010047802   **Image available**
WPI Acc No: 1994-315513/199439
XRPX Acc No: N94-247781
   **Vehicle automatic locating and security system - uses RF triangular
   location method with several terminals allocated in each vehicle
   including one hidden antenna, one transceiver, one controller and one
   back-up battery.**
Patent Assignee: TAIWAN SECON CO LTD (TASE-N)
Inventor: CHEN I; CHEN K; **HSU M** ; LII R
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
TW 229300   A   19940901 TW 93110994   A   19931224 199439   B

Priority Applications (No Type Date): TW 93110994 A 19931224
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
TW 229300   A   29 G08B-013/04

Abstract (Basic): TW 229300 A
       The automatic locating system includes a control centre with at
   least one personal computer which includes a location computing device
   for calculating a position of a located vehicle. A control storage
   device controls and stores data. A display device displays the vehicle
   number plate, status and location on an electronic map with several
   windows. A central station transmits a digital signal. Several leased
   lines or telephone lines connected to base station receive directive
   data. At least three base stations are used for direction searching,
   using leased lines or telephone lines connected to the control centre.
       A receiver with an omnidirectional antenna receives the signals
   transmitted by each vehicle. A personal computer locates the wave by
   digital signal processing the different phases of the received signal.
   A modem transmits the vehicle identification code, status
   identification code, emitting power, signal strength and direction data
   to the control centre through the leased line or telephone line.
       ADVANTAGE - Power sent from terminal is adaptive and is increased
   or decreased step by step on instruction sent from control centre to
   avoid direction uncertainty due to weak signal or unnecessary
   interference.
       Dwg.1/9
Title Terms: VEHICLE; AUTOMATIC; LOCATE; SECURE; SYSTEM; RF; TRIANGLE;
  LOCATE; METHOD; TERMINAL; ALLOCATE; VEHICLE; ONE; HIDE; ANTENNA; ONE;
  TRANSCEIVER; ONE; CONTROL; ONE; BACK-UP; BATTERY
Index Terms/Additional Words: OMNIDIRECTIONAL; ANTENNA
Derwent Class: T01; W05; W06; X22
International Patent Class (Main): G08B-013/04
International Patent Class (Additional): **G06F-013/10** ; G08B-013/08;
  H04L-029/02
File Segment: EPI

5/5/21   (Item 21 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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009557585   **Image available**
WPI Acc No: 1993-251132/199332
XRPX Acc No: N93-193451
  **Executing, tracking and recovering long running computations - executes
  long running transaction in units of steps with status tracked by storage
  of status data concerning execution of steps associated with each long
  running transaction**
Patent Assignee: DIGITAL EQUIP CORP (DIGI)
Inventor: GHONEIMY A; **HSU M** ; KLEISSNER K
Number of Countries: 005 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 554854	A2	19930811	EP 93101660	A	19930203	199332	B
EP 554854	A3	19960228	EP 93101660	A	19930203	199622	
US 5524241	A	19960604	US 92831114	A	19920204	199628	
			US 95426415	A	19950418		

Priority Applications (No Type Date): US 92831114 A 19920204; US 95426415 A
  19950418
Cited Patents: 3.Jnl.Ref; EP 236743
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 554854	A2	E	28	G06F-009/46	

  Designated States (Regional): DE FR GB IT

US 5524241	A		25	G06F-011/34	Cont of application US 92831114
EP 554854	A3			G06F-009/46	

Abstract (Basic): EP 554854 A
      The apparatus includes a flow description unit storing data
  representing each long running transaction as a set of steps with data
  flows between them. The data flows in and out of each step are
  included. The flow controller creates instances of transactions when
  corresp. input events are received and controls their execution.
      The flow controller stores the results for each executed step. A
  history management unit stores and retrieves status data of the
  executed transactions. Long running transactions are executed in steps,
  and each long running transaction's status is tracked by storage of the
  status data concerning execution of the associated steps.
      ADVANTAGE - Durably stores sufficient data to recover long running
  transaction with virtually no loss of work that was accomplished prior
  to system failure.
      Dwg.2/18
Title Terms: EXECUTE; TRACK; RECOVER; LONG; RUN; COMPUTATION; EXECUTE; LONG
  ; RUN; TRANSACTION; UNIT; STEP; STATUS; TRACK; STORAGE; STATUS; DATA;
  EXECUTE; STEP; ASSOCIATE; LONG; RUN; TRANSACTION
Derwent Class: T01
International Patent Class (Main): **G06F-009/46 ; G06F-011/34**
International Patent Class (Additional): **G06F-011/14 ; G06F-015/16**
File Segment: EPI

5/5/22   (Item 22 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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009557291   **Image available**
WPI Acc No: 1993-250838/199332
XRPX Acc No: N93-193223
  **Computer based management system for production control of processes -
  has stored data and cycle instructions to control operations based upon
  established criteria**
Patent Assignee: DIGITAL EQUIP CORP (DIGI); NIPPON DIGITAL EQUIP KK (DIGI
)

Inventor: GHONEIMY A; HS▪▪ ; KLEISSNER K
Number of Countries: 004   Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 4303062	A1	19930805	DE 4303062	A	19930203	199332	B
GB 2263988	A	19930811	GB 931823	A	19930129	199332	
JP 6083841	A	19940325	JP 9317297	A	19930204	199417	
GB 2263988	B	19960522	GB 931823	A	19930129	199624	
US 5581691	A	19961203	US 92830654	A	19920204	199703	
			US 95516729	A	19950818		
DE 4303062	C2	19990107	DE 4303062	A	19930203	199905	

Priority Applications (No Type Date): US 92830654 A 19920204; US 95516729 A
   19950818
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4303062	A1		32	G06F-009/44	
GB 2263988	A		64	G06F-015/20	
JP 6083841	A		26	G06F-015/21	
GB 2263988	B		1	G06F-017/60	
US 5581691	A		26	G06F-011/00	Cont of application US 92830654
DE 4303062	C2			G06F-017/30	

Abstract (Basic): DE 4303062 A
     The computer based system has a management structure (120) based
   upon a number of modules. One module (114) stores data relating to the
   type of operation and this is controlled by a supervisory unit (122). A
   separate area of the memory (116) stores historical data acquired from
   operation of the system.
     Both sets of data are used by the cycle controller (130). Steps in
   the system cycle are executed based upon the input of a required number
   of signals.
     ADVANTAGE - Provides rapid restart following interruption.
     Dwg.2/22
Title Terms: COMPUTER; BASED; MANAGEMENT; SYSTEM; PRODUCE; CONTROL; PROCESS
   ; STORAGE; DATA; CYCLE; INSTRUCTION; CONTROL; OPERATE; BASED; ESTABLISH;
   CRITERIA
Derwent Class: T01; T06
International Patent Class (Main): G06F-009/44 ; G06F-011/00 ;
   G06F-015/20 ; G06F-015/21 ; G06F-017/30 ; G06F-017/60
International Patent Class (Additional): G06F-015/46 ; G06F-019/00 ;
   H04L-012/28
File Segment: EPI

 5/5/23   (Item 23 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

009288647   **Image available**
WPI Acc No: 1992-416058/199250
XRPX Acc No: N92-317264
   **Gateway for interfacing personal computers to integrated services digital
   network - provides network gateway module to carry out data protocol
   conversion at customer premises to interface host computer with ISDN line**
Patent Assignee: BELL ATLANTIC NETWORK SERVICES (BELL-N); CUMMINGS P
   (CUMM-I); GAGLIARDI U O (GAGL-I); HSU M (HSUM-I); MATTIN S A (MATT-I)
Inventor: CUMMINGS P; GAGLIARDI U O; **HSU M** ; MATTIN S A; MATTIN S
Number of Countries: 035   Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9221185	A1	19921126	WO 91US3612	A	19910524	199250	B
AU 9180622	A	19921230	AU 9180622	A	19910524	199313	
			WO 91US3612	A	19910524		
NZ 242528	A	19950328	NZ 242528	A	19920428	199519	
US 5444703	A	19950822	WO 91US3612	A	19910524	199539	
			US 9494144	A	19940114		
CA 2109634	C	20010724	CA 2109634	A	19910524	200147	

WO 91US3612   A   19910524

Priority Applications (No Type Date): WO 91US3612 A 19910524
Cited Patents: US 4993014; US 4996685; US 5023868
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
WO 9221185   A1 E 54 H04J-003/02
    Designated States (National): AT AU BB BG BR CA CH DE DK ES FI GB HU JP
    KP KR LK LU MC MG MW NL NO PL RO SD SE SU US
    Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL OA SE
AU 9180622   A   H04J-003/02   Based on patent WO 9221185
NZ 242528   A   H04L-012/00
US 5444703   A   22 H04J-003/16   Based on patent WO 9221185
CA 2109634   C E   G06F-013/42   Based on patent WO 9221185

Abstract (Basic): WO 9221185 A
        The Integrated Services Digital Network (ISDN) gateway (GW1,2) (H),
    i.e. a single appts. or a local area network thereof, comprises at
    least one PCB resident in each computer for carrying out protocol
    conversion and other network interface functions user-transparently. To
    improve bandwidth utilisation of the ISDN line when transmitting voice
    or data, an algorithm dynamically allocates B-channel bandwidth, by
    monitoring traffic density at each destination queue and allocating or
    de-allocating virtual B-channels. Bandwidth utilisation is optimised by
    packaging data packets into algorithm-compressed trains, for
    transmission when complete to their destination.
        USE/ADVANTAGE - For interfacing of personal computers with ISDN.
    Achieves optimum use of bandwidth by dynamically allocating B-channels
    user-transparently.
        Dwg.4/21
Title Terms: GATEWAY; INTERFACE; PERSON; COMPUTER; INTEGRATE; SERVICE;
    DIGITAL; NETWORK; NETWORK; GATEWAY; MODULE; CARRY; DATA; PROTOCOL;
    CONVERT; CUSTOMER; PREMISES; INTERFACE; HOST; COMPUTER; ISDN; LINE
Derwent Class: T01; W01
International Patent Class (Main): G06F-013/42 ; H04J-003/02; H04J-003/16;
    H04L-012/00
International Patent Class (Additional): H04J-003/14; H04L-012/46;
    H04L-012/52
File Segment: EPI

```
Set       Items   Description
S1         111    KMEAN? OR KMEDIAN? OR KPROTOTYP? OR K()(MEAN? ? OR MEDIAN?
                  OR PROTOTYP?)
S2      2341329   CLUSTER? OR DATACLUSTER? OR GROUP? OR ORGANIZ? OR ORGANIS?
                  OR ARRANGE? OR CLASSIF?
S3      2974451   BOUNDAR? OR EDGE? OR LIMIT? OR LINE? OR PARTITION? OR BORD-
                  ER? OR DIVIDER?
S4      1165491   CENTER? OR CENTRE? OR CENTRAL?
S5      3443950   SIZE? OR MAGNITUDE? OR NUMBER? OR AMOUNT? OR QUANTIT? OR T-
                  OTAL? ? OR COUNT OR COUNTS
S6          34    S1 AND S2
S7          24    S6 AND (S3 OR S5)
S8           3    S6 AND S4
S9          26    S7 OR S8
S10          4    S9 AND IC=G06F?
S11          1    S1 AND MC=T01-N03A?
S12          1    S1 AND MC=T01-N0?
S13         11    S1 AND MC=T01?
S14          6    S13 AND S5
S15          8    S14 OR S10 OR S11
S16          8    IDPAT (sorted in duplicate/non-duplicate order)
S17          8    IDPAT (primary/non-duplicate records only)
S18         25    S1 AND (S3 OR S4) AND S5
S19         14    S18 NOT S9
S20          2    S19 AND IC=G06F?
S21          0    S19 AND MC=T01?
S22          2    S20 OR S21
S23          2    IDPAT (sorted in duplicate/non-duplicate order)
S24          2    IDPAT (primary/non-duplicate records only)
S25          1    S1 AND (DATAMIN? OR DATA()(MINE OR MINING?))
File 347:JAPIO Oct 1976-2002/May(Updated 020903)
        (c) 2002 JPO & JAPIO
File 350:Derwent WPIX 1963-2002/UD,UM &UP=200260
        (c) 2002  Thomson Derwent
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012964408   **Image available**
WPI Acc No: 2000-136259/200012
XRPX Acc No: N00-101871
  Data clustering method in database of computer data processing system
Patent Assignee: MICROSOFT CORP (MICR-N)
Inventor: BRADLEY P S; FAYYAD U; REINA C
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6012058	A	20000104	US 9842540	A	19980317	200012	B

Priority Applications (No Type Date): US 9842540 A 19980317
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6012058	A		28	G06F-017/00	

Abstract (Basic): US 6012058 A
      NOVELTY - A cluster number K' is chosen for categorizing data in K
   different clusters. Data records are assigned from data portion to one
   cluster and a mean of data records is determined, summarized, and
   stored in a rapid access memory. An additional portion of the data
   records are accessed and stored. A criteria to determine if further
   data should be accessed from the database, is evaluated to continue
   clustering.
      DETAILED DESCRIPTION - An extended **K   means** evaluation of the
   data records and the summarization of data is used to calculate a
   clustering model that includes a mean of for each K different clusters.
   The data records are vectors. INDEPENDENT CLAIMS are also included for
   the following:
      (a) data evaluating apparatus;
      (b) data evaluating program
      USE - For **K   means** clustering of large database in computer data
   processing system for use in business organizations, for data
   visualization, indexing, prediction, and **data   mining** for use in
   marketing, fraud detection, customer retention and churn minimization
   including airlines, telecom services, internet, direct marketing and
   live marketing on electronic commerce.
      ADVANTAGE - Enables effective and accurate clustering in one or
   less scans of database, thus resulting in a better performance. By
   analyzing a mixture of sufficient statistics and actual data points,
   better clustering is achieved with lower memory requirements. By
   incrementally accessing and then summarizing a portion of the data, the
   process is performed in a limited size memory buffer of computer.
      DESCRIPTION OF DRAWING(S) - The figure shows the flow diagram of
   the clustering method.
      pp; 28 DwgNo 4/14
Title Terms: DATA; METHOD; DATABASE; COMPUTER; DATA; PROCESS; SYSTEM
Derwent Class: T01
International Patent Class (Main): G06F-017/00
File Segment: EPI
?ds

03636768   **Image available**
TEXTURE MEASURING INSTRUMENT

PUB. NO.:   04-001868 [JP 4001868 A]
PUBLISHED: January 07, 1992 (19920107)
INVENTOR(s):   YAMADA SAWAAKI
                TAKAMOTO TOMOHIRO
APPLICANT(s):   NRI & NCC CO LTD [420135] (A Japanese Company or Corporation)
                , JP (Japan)
APPL. NO.:   02-104105 [JP 90104105]
FILED: April 19, 1990 (19900419)
INTL CLASS: [5] **G06F-015/70**
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)
JOURNAL: Section: P, Section No. 1336, Vol. 16, No. 147, Pg. 2, April
                13, 1992 (19920413)

ABSTRACT
PURPOSE: To automatically measure a texture on the surface of an object by
providing a tilt calculation means, a .beta. value calculation means which
obtains the   fluctuation   characteristic   .beta. value from the calculated
tilt and based on a specific formula, and a means which compares the .beta.
value with the prescribed value to decide the texture.

CONSTITUTION: A both-logarithm conversion means 14 performs a logarithmic
display where the measured power spectral value is set on a vertical axis
with a space frequency set on a horizontal axis respectively. The means 14
is connected with a tilt calculation means 15 which calculates a
characteristic curve shown in the logarithmic display as a **linear** tilt by
means of a method of least squares, for example, and maintains the tilt.
The means 15 is connected with a fluctuation characteristic value .beta.
calculation means 16 which calculates the value .beta. from the calculated
tilt. The value .beta. is calculated by an equation I and then compared
with the prescribed value. Thus an artificial state and a natural state are
decided when the value .beta. is larger and smaller than the prescribed
value respectively. In the equation I, P, (f) and (**k**) **mean** the power
spectral value, a spacial frequency and a constant respectively. Thus the
texture of a sample is automatically and **quantitatively** measured.

01494045   **Image available**
INFORMATION TRANSFER DEVICE

PUB. NO.:   59-205645 [JP 59205645 A]
PUBLISHED: November 21, 1984 (19841121)
INVENTOR(s):   KADAIRA GIZOU
APPLICANT(s):   NEC CORP [000423] (A Japanese Company or Corporation), JP
                (Japan)
APPL. NO.:   58-078995 [JP 8378995]
FILED: May 06, 1983 (19830506)
INTL CLASS: [3] **G06F-005/06 ; G06F-007/00**
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)
JOURNAL: Section: P, Section No. 345, Vol. 09, No. 72, Pg. 159, April
                02, 1985 (19850402)

ABSTRACT
PURPOSE: To execute an instruction at a high speed by detecting the timing
with which the element data is outputted just few minutes successively and
continuously from a buffer and indicating the reading start.

CONSTITUTION: A reading start indicating circuit 6 detects that 20 element data, for example, can be read out successively and continuously to a buffer 2 if the reading is started when those element data are written from the input information given via input **lines** 61 and 62 and based on a conditional equation m>n (1-1/k). In this case, all element data (n) equals to 40 and (**k**) **means** 2 machine cycles respectively. When the value showing the **number** of elements written to the buffer 2 from a control circuit 3 reaches 20, a reading start indicating signal is transmitted via an output **line** 71 before the writing is through with all of 40 element data to the buffer 2.

DIALOG(R)File 350:Derwent WPIX

014708495   **Image available**
WPI Acc No: 2002-529199/200256
XRPX Acc No: N02-419110
  Data clustering **method e.g. for databases, where each data is analysed
  to identify a** group **whose** centre **is close to that data input, and the
  analysis of data inputs is repeated until all data inputs have been
  assigned to** groups
Patent Assignee: ODDO A S (ODDO-I); PREDICTIVE NETWORKS INC (PRED-N)
Inventor: ODDO A S
Number of Countries: 096 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200257958	A1	20020725	WO 2002US1453	A	20020117	200256	B
US 20020099702	A1	20020725	US 2001766377	A	20010119	200258	

Priority Applications (No Type Date): US 2001766377 A 20010119
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200257958	A1	E	27	G06F-017/30	

     Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
     CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS
     JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL
     PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
     Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
     IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
US 20020099702 A1   G06F-007/00

Abstract (Basic): WO 200257958 A1
     NOVELTY - Method for **clustering** data inputs into **groups**
  comprises: defining a match threshold; designating a data input as
  centre of a **group** ; analysing another data input to identify a **group**
  whose **centre** has a proximity to the input that is above the match
  threshold, and if such a **group** is identified, assigning the data
  input to that **group** ; if the data input has a proximity to the **centre**
  of no **group** above the match threshold, creating a new **group** and
  designating the data input a's **centre** of the new **group** ; and
  repeating the above steps until all data inputs have been assigned to
  groups .
     DETAILED DESCRIPTION - INDEPENDENT CLAIM included for the
  following:computer program; computer; method of suggesting a web site;
  method of **organising** search engine results
     USE - For databases.
     ADVANTAGE - Provides a highly efficient method for **clustering**
  data. The method includes the advantages of the **K - means** algorithm
  and ART without the disadvantages. The method can **classify** any set of
  inputs with one pass through the set using a computationally
  inexpensive **grouping** mechanism. The method converges to its optimal
  solution after the second pass. The method achieves this peak
  performance without the use of compliment coding. Furthermore, it
  allows the user to control the degree of the match between a data entry
  and a **group** .
     DESCRIPTION OF DRAWING(S) - The flow chart illustrates the first
  pass of the **clustering** method.
     pp; 27 DwgNo 1/4
Title Terms: DATA; METHOD; DATA; ANALYSE; IDENTIFY; **GROUP** ; **CENTRE** ;
  CLOSE; DATA; INPUT; ANALYSE; DATA; INPUT; REPEAT; DATA; INPUT; ASSIGN;
  GROUP
Derwent Class: T01
International Patent Class (Main): **G06F-007/00** ; **G06F-017/30**
File Segment: EPI

DIALOG(R)File 350:Derwent WPIX

014595046   **Image available**
WPI Acc No: 2002-415750/200244
Related WPI Acc No: 2002-404746
XRPX Acc No: N02-327075

Anomaly detection system teaching method in computer network, involves incorporating presentation of time which is periodic, continuous and unambiguous within specific period of observable element into data component

Patent Assignee: NOKIA CORP (OYNO)
Inventor: HAETOENEN K; HOEGLUND A; SORVARI A
Number of Countries: 097   Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200221242	A1	20020314	WO 2001FI783	A	20010910	200244	B
FI 200001997	A	20020312	FI 20001997	A	20000911	200244	
AU 200187759	A	20020322	AU 200187759	A	20010910	200251	

Priority Applications (No Type Date): FI 20001997 A 20000911
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200221242	A1	E	19	G06F-001/00	

    Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
    Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

| FI 200001997 | A | | | G06F-000/00 | |
| AU 200187759 | A | | | G06F-001/00 | Based on patent WO 200221242 |

Abstract (Basic): WO 200221242 A1
    NOVELTY - The assembled indicators are **arranged** such that each observable element's indicator are assigned with respective input data component. The learning mechanism is activated, such that input data components of mechanism corresponds with the input data components of indicators. The presentation of time which is periodic, continuous and unambiguous within period (L) of observable element, is included in input data component of mechanism.
    DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
    (a) Anomalies detection **arrangement** ;
    (b) Recorded medium storing anomaly detection program
    USE - For teaching anomaly detection system used in UNIX based computer system and telecommunication network.
    ADVANTAGE - The presentation of time is formulated for solving problem caused by time varying normal behavior of system such as telecommunication networks. The detection of anomaly is not **limited** to self **organizing** maps but can be used with other **clustering** techniques such as **k - means** and learning vector quantization. Enables determining normal and anomalous behavior, efficiently.
    DESCRIPTION OF DRAWING(S) - The figure shows the flowchart illustrating the anomaly detection process.
    pp; 19 DwgNo 3/4

Title Terms: ANOMALY; DETECT; SYSTEM; TEACH; METHOD; COMPUTER; NETWORK; INCORPORATE; PRESENT; TIME; PERIODIC; CONTINUOUS; UNAMBIGUOUS; SPECIFIC; PERIOD; OBSERVE; ELEMENT; DATA; COMPONENT
Derwent Class: T01
International Patent Class (Main): **G06F-000/00** ; **G06F-001/00**
International Patent Class (Additional): **G06F-015/18** ; G06N-003/08
File Segment: EPI

 17/5/3   (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012964408   **Image avai●le**
WPI Acc No: 2000-136259/200012
XRPX Acc No: N00-101871
  Data clustering **method in database of computer data processing system**
Patent Assignee: MICROSOFT CORP (MICR-N)
Inventor: BRADLEY P S; FAYYAD U; REINA C
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
US 6012058   A   20000104 US 9842540   A   19980317 200012 B

Priority Applications (No Type Date): US 9842540 A 19980317
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
US 6012058   A   28 G06F-017/00

Abstract (Basic): US 6012058 A
        NOVELTY - A **cluster**   **number** K' is chosen for categorizing data
    in K different **clusters** . Data records are assigned from data portion
    to one **cluster** and a mean of data records is determined, summarized,
    and stored in a rapid access memory. An additional portion of the data
    records are accessed and stored. A criteria to determine if further
    data should be accessed from the database, is evaluated to continue
    clustering .
        DETAILED DESCRIPTION - An extended **K**   **means** evaluation of the
    data records and the summarization of data is used to calculate a
    clustering model that includes a mean of for each K different
    clusters . The data records are vectors. INDEPENDENT CLAIMS are also
    included for the following:
        (a) data evaluating apparatus;
        (b) data evaluating program
        USE - For **K**   **means**   **clustering** of large database in computer
    data processing system for use in business **organizations** , for data
    visualization, indexing, prediction, and data mining for use in
    marketing, fraud detection, customer retention and churn minimization
    including airlines, telecom services, internet, direct marketing and
    live marketing on electronic commerce.
        ADVANTAGE - Enables effective and accurate **clustering** in one or
    less scans of database, thus resulting in a better performance. By
    analyzing a mixture of sufficient statistics and actual data points,
    better **clustering** is achieved with lower memory requirements. By
    incrementally accessing and then summarizing a portion of the data, the
    process is performed in a **limited**   **size** memory buffer of computer.
        DESCRIPTION OF DRAWING(S) - The figure shows the flow diagram of
    the **clustering** method.
        pp; 28 DwgNo 4/14
Title Terms: DATA; METHOD; DATABASE; COMPUTER; DATA; PROCESS; SYSTEM
Derwent Class: T01
International Patent Class (Main): **G06F-017/00**
File Segment: EPI

 17/5/4   (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

009974407   **Image available**
WPI Acc No: 1994-242120/199430
XRPX Acc No: N94-191052
  Automatic handwriting recognition using both static and dynamic
  parameters - generates and processes tablet data with three independent
  sets of feature vectors which encode shape information of input character
  information including horizontal and vertical slices of bit mapped input
  character image data
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: BELLEGARDA J R; NAHAMOO D; NATHAN K S
Number of Countries: 004 Number of Patents: 009
Patent Family:

```
Patent No      Kind   Date ●  Applicat No   Kind    Date ● eek
EP 608708      A2   19940803  EP 94100357   A    19940112  199430  B
EP 608708      A3   19950329  EP 94100357   A    19940112  199543
US 5491758     A    19960213  US 939515     A    19930127  199612
US 5539839     A    19960723  US 939515     A    19930127  199635
                              US 95450558   A    19950525
US 5544261     A    19960806  US 939515     A    19930127  199637
                              US 95450556   A    19950525
US 5544264     A    19960806  US 939515     A    19930127  199637
                              US 95451001   A    19950525
US 5550931     A    19960827  US 939515     A    19930127  199640
                              US 95450557   A    19950525
EP 608708      B1   20000503  EP 94100357   A    19940112  200026
DE 69424196    E    20000608  DE 624196     A    19940112  200034
                              EP 94100357   A    19940112
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Priority Applications (No Type Date): US 939515 A 19930127; US 95450558 A
   19950525; US 95450556 A 19950525; US 95451001 A 19950525; US 95450557 A
   19950525
Cited Patents: No-SR.Pub; DE 3822671
Patent Details:
```
Patent No   Kind Lan Pg    Main IPC      Filing Notes
EP 608708      A2 E  32 G06K-009/22
   Designated States (Regional): DE FR GB
EP 608708      A3       G06K-009/22
US 5491758     A     25 G06K-009/00
US 5539839     A     25 G06K-009/00   Div ex application US 939515
                                       Div ex patent US 5491758
US 5544261     A     24 G06K-009/00   Div ex application US 939515
                                       Div ex patent US 5491758
US 5544264     A  E   8 G06K-009/00   Div ex application US 939515
                                       Div ex patent US 5491758
US 5550931     A     24 G06K-009/00   Div ex application US 939515
                                       Div ex patent US 5491758
EP 608708      B1 E     G06K-009/22
   Designated States (Regional): DE FR GB
DE 69424196    E        G06K-009/22   Based on patent EP 608708
```

Abstract (Basic): EP 608708 A
      The appts. comprises a handwriting transducer with an output
   providing x and y coordinate information generated (2) by a writer
   writing a character. The output of the transducer provides temporarily
   based feature vectors, similarly it provides shape based feature
   vectors.
      These two outputs help to identify the most probable or most likely
   character that was written by the writer. The character prototypes
   constructed in accordance with the outputs are stored. A decoder (6) is
   responsive to an overall likelihood estimator and to a language model
   for identifying the most probable character (8) written by the writer.
      ADVANTAGE - Produces errors by two methods which are to great
   extend orthogonal and consequently combination of two sets of
   parameters greatly reduces overall handwriting recognition error rate.
      Dwg.3/23
Title Terms: AUTOMATIC; HANDWRITING; RECOGNISE; STATIC; DYNAMIC; PARAMETER;
   GENERATE; PROCESS; TABLET; DATA; THREE; INDEPENDENT; SET; FEATURE; VECTOR
   ; ENCODE; SHAPE; INFORMATION; INPUT; CHARACTER; INFORMATION; HORIZONTAL;
   VERTICAL; SLICE; BIT; MAP; INPUT; CHARACTER; IMAGE; DATA
Derwent Class: A13; A95; E32; E36; T01; T04
International Patent Class (Main): G06K-009/00; G06K-009/22
International Patent Class (Additional): G06K-009/68
File Segment: CPI; EPI

 17/5/5   (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009727393   **Image available**

WPI Acc No: 1994-007243/19401
XRPX Acc No: N94-005948
   Automated television bingo game system – enters players on system from
   telephone input and compares selected numbers **with assigned bingo**
   cards, determining and displaying winners details
Patent Assignee: POCOCK A R (POCO-I); POCOCK T H (POCO-I); POCOCK A
   (POCO-I); POCOCK T (POCO-I)
Inventor: POCOCK A R; POCOCK T H; POCOCK A; POCOCK T
Number of Countries: 002 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9325290	A1	19931223	WO 93CA228	A	19930607	199401	B
US 5297802	A	19940329	US 92894744	A	19920605	199412	
AU 9343026	A	19940104	AU 9343026	A	19930607	199417	
US 5518253	A	19960521	US 92894744	A	19920605	199626	
			US 94213705	A	19940316		

Priority Applications (No Type Date): US 92894744 A 19920605; US 94213705 A
   19940316
Cited Patents: CA 1215431; EP 310368; US 4630830; US 4909516; US 5035422;
   US 5072381; US 5083272; WO 9106354
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9325290	A1	E	81	A63F-009/22	
US 5297802	A		34	A63F-003/06	
AU 9343026	A			A63F-009/22	Based on patent WO 9325290
US 5518253	A		31	A63F-003/06	Cont of application US 92894744
					Cont of patent US 5297802

Abstract (Basic): WO 9325290 A
      The computer system generates sheets containing a **number** of
   unique bingo cards for distribution to players in a television
   station's viewing area. Each sheet has a unique identifying **number** .
   Players are identified to the computer system by a telephone link and a
   sheet associated to each player by means of a sheet identification
   number . This information is stored on the computer's database.
      Bingo **numbers** are randomly selected individually from a pool of
   seventy five possible **numbers** and displayed to the television viewer.
   The **numbers** are matched with the held bingo sheets and analysed for
   winning pattern matching. When winning patterns are identified, the
   identities of the players are determined and the television audience
   informed of the winners. A telephone system, with voice response
   system, provides information pertaining to a player's identity.
      ADVANTAGE – Automatic billing. Automatic operation.
      Dwg.1/15
Title Terms: AUTOMATIC; TELEVISION; BINGO; GAME; SYSTEM; ENTER; PLAY;
   SYSTEM; TELEPHONE; INPUT; COMPARE; SELECT; **NUMBER** ; ASSIGN; BINGO; CARD;
   DETERMINE; DISPLAY; WINNING; DETAIL
Derwent Class: P36; T01; W01; W04
International Patent Class (Main): A63F-003/06; A63F-009/22
International Patent Class (Additional): G06F-015/44
File Segment: EPI; EngPI

 17/5/6   (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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007365258
WPI Acc No: 1987-362264/198751
XRPX Acc No: N87-271541
   Reel mapping scheme for gaming machine – has memory storing map of
   symbols on each reel and memory to store stop position of each reel
Patent Assignee: BALLY MFG CORP (BALJ)
Inventor: CHAN T; PAJAK P; SALMONS V
Number of Countries: 003 Number of Patents: 004
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week

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US 4711451      A   1987120   US 86891362   A   19860729   8751  B
GB 2193357      A   19880203  GB 8714200    A   19870617   198805
AU 8775060      A   19880204                               198813
GB 2193357      B   19900314                               199011
```

Priority Applications (No Type Date): US 86891362 A 19860729
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
US 4711451   A   10

Abstract (Basic): US 4711451 A
        The reel mapping scheme allows one standard reel stop control
    software routine to control the stopping of the reels when the device
    is operated as a standard gaming device, a multiple stop gaming device
    or a virtual reel gamingdevice. The gaming device includes a **number**
    of rotating symbol bearing reels, each reel having n stop positions
    associated with each symbol on the reel. For each reel, the gaming
    device stores a map of the symbols on the reel in a symbol map memory
    and a map of the stop positions on the reel in a stop map memory where
    the data stored in the first location in the reel map memory represents
    the first stop for a symbol whose data is stored in the first location
    in the symbol map memory.
        Three mapping indexes are stored for each reel. One index stores
    only one value representing an address offset to the reel map memory at
    one location foreach symbol on the reel to provide a standard gaming
    device. A second index stores two or more reel map address offset
    values for each symbol on a reel to provide a multiple stop gaming
    device. A third index stores, for each of a **number** of symbols on a
    reel, the same reel map address offset value at different locations
    inthe index to provide a virtual reel gaming device.
Title Terms: REEL; MAP; SCHEME; GAME; MACHINE; MEMORY; STORAGE; MAP; SYMBOL
  ; REEL; MEMORY; STORAGE; STOP; POSITION; REEL
Derwent Class: P36; T01; W04
International Patent Class (Additional): A63B-071/04; **G06F-015/44** ;
  G07F-017/34
File Segment: EPI; EngPI

 17/5/7   (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

004723649
WPI Acc No: 1986-226991/198635
XRPX Acc No: N86-169377
  **Radix-beta numerical division appts. - operates in four phases to perform
  digital division**
Patent Assignee: PRIME COMPUTER INC (PRIM)
Inventor: IRUKULLA S; PATEL B V
Number of Countries: 013 Number of Patents: 005
Patent Family:
```
Patent No     Kind   Date      Applicat No   Kind   Date      Week
EP 192420      A    19860827  EP 86300988    A    19860213  198635 B
US 4724529     A    19880209  US 85701556    A    19850214  198809
CA 1244140     A    19881101                               198848
EP 192420      B    19910515                               199120
DE 3679214     G    19910620                               199126
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Priority Applications (No Type Date): US 85701556 A 19850214
Cited Patents: 3.Jnl.Ref; A3...8749; No-SR.Pub; US 3735107; US 3736413
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
EP 192420   A E   54
   Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE
EP 192420   B
   Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE

Abstract (Basic): EP 192420 A

The appts. receiv● signals representative of a nu●ator N and a
denominator D. The appts. also generates (a) a signal representative of
a transformation factor, K, (b) a signal (which is stored)
representative of a transformed denominator, D', being in the range
(beta-1)/beta to one, and D' being equivalent to the product D.K, and
(c) a signal representative of a transformed numerator, N; having a
sign portion and a **magnitude** portion representative of at least one
radix-beta digit. The appts. evaluates these portions to generate and
store a signal representative of a quotient digit, q.
    The appts. then selectively and repeatedly involves these
operations. (i) generating a signal representative of a partial
remainder, P, with a sign portion and a **magnitude** portion
representative of at least one radix-beta digit and (ii) evaluating the
sign portion and a single radix-beta digit representation portion of
the partial remainder signal for generating and storing a signal
representative of a quotient digit, q.
Title Terms: RADIX; BETA; NUMERIC; DIVIDE; APPARATUS; OPERATE; FOUR; PHASE;
  PERFORMANCE; DIGITAL; DIVIDE
Derwent Class: T01
International Patent Class (Additional): G06F-007/49
File Segment: EPI

17/5/8   (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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004248837
WPI Acc No: 1985-075715/198513
XRPX Acc No: N85-056695
  **Vector sum generator esp. for digital TV receiver - has weighting circuit
  controlled by vector angle coeffts.**
Patent Assignee: RCA CORP (RADC); RCA LICENSING CORP (RADC)
Inventor: CHIND ; CHIN D
Number of Countries: 016 Number of Patents: 019
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 3432122	A	19850321	DE 3432122	A	19840831	198513	B
FR 2551609	A	19850308				198515	
GB 2146200	A	19850411	GB 8422085	A	19840831	198515	
PT 79127	A	19850322				198516	
SE 8404229	A	19850303				198516	
AU 8432471	A	19850307				198517	
ZA 8406841	A	19850305				198523	
FI 8403353	A	19850303				198525	
JP 60090488	A	19850521	JP 84183598	A	19840831	198526	
DK 8404199	A	19850303				198603	
US 4587552	A	19860506	US 83529136	A	19830902	198621	
ES 8606752	A	19861001	ES 535419	A	19840824	198649	
GB 2146200	B	19870325				198712	
CA 1219342	A	19870317				198715	
SE 454641	B	19880516				198822	
IT 1175646	B	19870715				199030	
AT 8402821	A	19910815				199136	
DE 3432122	C2	19931014	DE 3432122	A	19840831	199341	
KR 9205220	B1	19920629	KR 845357	A	19840831	199401	

Priority Applications (No Type Date): US 83529136 A 19830902
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3432122	A		19		
DE 3432122	C2		10	G06F-015/347	
KR 9205220	B1			H04N-009/64	

Abstract (Basic): DE 3432122 A
    A coefft. generator is controlled by the angle values between the
vector sum and the axis of one vector component and produces coeffts.
related to these values. The coeffts. control a weighting circuit whose

output goes to an adder whose other input receives one vector component via a coupling circuit. The latter feeds the other component to the weighting circuit, so that the adder output represents the sum of the two vector components.

Pref. the coupling circuit contains one or more absolute value circuits which only allow passage of the vector component signals.

USE/ADVANTAGE - Producing sum values of two vector components, e.g. for use in a digital TV receiver. Much simpler circuitry.

0/3

Title Terms: VECTOR; SUM; GENERATOR; DIGITAL; TELEVISION; RECEIVE; WEIGHT; CIRCUIT; CONTROL; VECTOR; ANGLE; COEFFICIENT

Derwent Class: T01; W03

International Patent Class (Main): G06F-015/347; H04N-009/64

International Patent Class (Additional): G01D-001/16; G06F-015/34; G06G-007/22; H03K-019/20; H04H-009/64; H04N-007/13; H04N-009/53; H04N-009/73

File Segment: EPI

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Set     Items   Descript.
S1       3705   KMEAN? OR KMEDIAN? OR KPROTOTYP? OR K()(MEAN? ? OR MEDIAN?
                OR PROTOTYP?)
S2    6554243   CLUSTER? OR DATACLUSTER? OR GROUP? OR ORGANIZ? OR ORGANIS?
                OR ARRANGE? OR CLASSIF?
S3    8039911   BOUNDAR? OR EDGE? OR LIMIT? OR LINE? OR PARTITION? OR BORD-
                ER? OR DIVIDER?
S4    2949562   CENTER? OR CENTRE? OR CENTRAL?
S5    8621832   SIZE? OR MAGNITUDE? OR NUMBER? OR AMOUNT? OR QUANTIT? OR T-
                OTAL? ? OR COUNT OR COUNTS
S6         46   S1 AND S2 AND S3 AND S4 AND S5
S7         33   RD (unique items)
S8         31   S7 NOT PY>2000
S9         31   S8 NOT PD>20001004
File   99:Wilson Appl. Sci & Tech Abs 1983-2002/Aug
          (c) 2002 The HW Wilson Co.
File   62:SPIN(R) 1975-2002/Aug W3
          (c) 2002 American Institute of Physics
File   34:SciSearch(R) Cited Ref Sci 1990-2002/Sep W4
          (c) 2002 Inst for Sci Info
File  434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
          (c) 1998 Inst for Sci Info
File  144:Pascal 1973-2002/Sep W4
          (c) 2002 INIST/CNRS
File    6:NTIS 1964-2002/Sep W4
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File  233:Internet & Personal Comp. Abs. 1981-2002/Sep
          (c) 2002 Info. Today Inc.
File  111:TGG Natl.Newspaper Index(SM) 1979-2002/Sep 19
          (c) 2002 The Gale Group
File   94:JICST-EPlus 1985-2002/Jul W4
          (c)2002 Japan Science and Tech Corp(JST)
File    2:INSPEC 1969-2002/Sep W4
          (c) 2002 Institution of Electrical Engineers
File   65:Inside Conferences 1993-2002/Sep W4
          (c) 2002 BLDSC all rts. reserv.
File  202:Information Science Abs. 1966-2002/Aug 26
          (c) Information Today, Inc
File   35:Dissertation Abs Online 1861-2002/Aug
          (c) 2002 ProQuest Info&Learning
File   77:Conference Papers Index 1973-2002/Sep
          (c) 2002 Cambridge Sci Abs
File    8:Ei Compendex(R) 1970-2002/Sep W3
          (c) 2002 Engineering Info. Inc.
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06073514   Genuine Article#: XT731   Number of References: 39
Title: Mean-tracking clustering **algorithm for radial basis function**
    centre **selection**
Author(s): Sutanto EL (REPRINT) ; Mason JD; Warwick K
Corporate Source: UNIV READING,DEPT CYBERNET, POB 225/READING RG6
    6AY/BERKS/ENGLAND/ (REPRINT)
Journal: INTERNATIONAL JOURNAL OF CONTROL, 1997, V67, N6 (AUG), P961-977
ISSN: 0020-7179   Publication date: 19970800
Publisher: TAYLOR & FRANCIS LTD, ONE GUNPOWDER SQUARE, LONDON, ENGLAND EC4A
    3DE
Language: English   Document Type: ARTICLE
Geographic Location: ENGLAND
Subfile: CC ENGI--Current Contents, Engineering, Computing & Technology
Journal Subject Category: ROBOTICS & AUTOMATIC CONTROL
Abstract: Radial basis functions can be combined into a network structure
    that has several advantages over conventional neural network solutions.
    However, to operate effectively the **number** and positions of the basis
    function **centres** must be carefully selected. Although no rigorous
    algorithm exists for this purpose, several heuristic methods have been
    suggested. In this paper a new method is proposed in which radial basis
    function **centres** are selected by the mean-tracking **clustering**
    algorithm. The mean-tracking algorithm is compared with **k** **means**
    clustering and it is shown that it achieves significantly better
    results in terms of radial basis function performance. As well as being
    computationally simpler, the mean-tracking algorithm in general selects
    better **centre** positions, thus providing the radial basis functions
    with better modelling accuracy.
Identifiers--KeyWord Plus(R): NETWORKS; **NUMBER**
Research Fronts: 95-4661 002   (NONPARAMETRIC REGRESSION; QUALITATIVE
    SMOOTHING; BANDWIDTH SELECTION; FREQUENCY FUNCTION; BINARY CHOICE
    MODEL; GROWTH CURVE ANALYSIS)
  95-0572 001   (BOUNDED-ERROR IDENTIFICATION; SIMULTANEOUS **LINEAR**
    -EQUATIONS; MUSIC ALGORITHM; GLOBAL OPTIMIZATION; PROPAGATION
    OPERATIONS FOR INTERVALS)
  95-2431 001   (NEURAL NETWORKS; FUZZY MODEL-REFERENCE ADAPTIVE-CONTROL;
    NONLINEAR DISCRETE-TIME MULTIVARIABLE DYNAMICAL-SYSTEMS)
  95-4653 001   (EM ALGORITHM; PLAYERS MODELS; MIXTURE LIKELIHOOD APPROACH)
  95-5285 001   (KOHONEN SELF- **ORGANIZING** MAP METHOD; UNIVARIATE
    DISTRIBUTIONS; FAST STATISTICAL MIXTURE ALGORITHM FOR ONLINE
    HANDWRITING RECOGNITION)
Cited References:
    AITKIN M, 1981, V144, P419, JR STATIST SOC A
    ANDERSON JJ, 1985, V2, P3, COMPUTATIONAL STAT Q
    BALL GH, 1967, V12, P153, BEHAV SCI
    BROOMHEAD DS, 1988, V2, P321, COMPLEX SYST
    CALINSKI T, 1974, V3, P1, COMMUN STAT
    CARMICHAEL JW, 1969, V18, P402, SYST ZOOL
    CHEN S, 1995, V31, P117, ELECTRON LETT
    CHEN S, 1992, V139, P378, IEE PROC-F
    CHEN S, 1990, V21, P2513, INT J SYST SCI
    CICHOCKI A, 1993, NEURAL NETWORKS OPTI
    CRADDOCK RJ, 1994, P302, P IMACS INT S SIGN P
    DUDA RO, 1973, PATTERN CLASSIFICATI
    EVERITT BS, 1971, V119, P399, BRIT J PSYCHIAT
    EVERITT BS, 1981, FINITE MIXTURE DISTR
    EVERITT BS, 1989, V17, P283, J APPL STAT
    GIROSI F, 1990, V63, P169, BIOL CYBERN
    GIROSI F, 1990, V78, P1481, P IEEE
    GORDON AD, 1981, CLASSIFICATION
    HARTIGAN JA, 1975, CLUSTERING ALGORITHM
    KATZ JO, 1973, V22, P295, SYST ZOOL
    LOWE D, 1994, V2, P1197, IEEE INT C NEUR NETW
    MASON JD, 1994, P100, IEE INT C CONTR 94 C
    MILLIGAN GW, 1985, V50, P159, PSYCHOMETRIKA

MOJENA R, 1977, V20, P359, COMPUT J
MOODY TJ, 1989, V1, P151, NEURAL COMPUT
NARENDRA KS, 1994, ADAPTIVE CONTROL DYN
SANCHEZ VD, 1995, V7, P197, NEUROCOMPUTING
SCOTT DW, 1992, MULTIVARIATE DENSITY
SILVERMAN BW, 1986, DENSITY ESTIMATION
SODERSTROM T, 1989, SYSTEM IDENTIFICATIO
SUTANTO EL, 1995, IEE C INT MAN SYST
SUTANTO EL, 1995, V142, P417, IEE P-SCI MEAS TECH
SUTANTO EL, 1996, THESIS U READING UK
SYMONS MJ, 1981, V37, P35, BIOMETRICS
WEINER JS, 1972, ASSESSMENTS POPULATI
WISHART D, 1969, MODE ANAL NUMERICAL
WOLFE JH, 1970, V5, P329, MULTIVARIATE BEHAVIO
WONG MA, 1982, V77, P841, J AM STAT ASSOC
WONG MA, 1983, V45, P362, J ROY STAT SOC B MET

9/5/2   (Item 2 from file: 34)

05469648   Genuine Article#: WB130   Number of References: 11
Title: A PHYSICS-BASED APPROACH TO IDENTIFYING INTERREFLECTION
Author(s): TJAHJADI T; LITWIN D; YANG YH
Corporate Source: UNIV WARWICK,DEPT ENGN/COVENTRY CV4 7AL/W
    MIDLANDS/ENGLAND/
Journal: OPTICA APPLICATA, 1996, V26, N3, P201-216
ISSN: 0078-5466
Language: ENGLISH   Document Type: ARTICLE
Geographic Location: ENGLAND
Subfile: SciSearch; CC ENGI--Current Contents, Engineering, Technology &
    Applied Sciences
Journal Subject Category: OPTICS
Abstract: A reflection model which enables an identification of matte,
    highlight and interreflection legions on objects of inhomogeneous
    dielectric materials is presented. The model utilises the concept of
    the dichromatic reflection model and the one-bounce model of mutual
    reflection. A psi-theta space is introduced to enable the spectral
    cluster of a region to be identified either as a matte hill, a
    highlight lobe or an interreflection lobe. An analysis of the **boundary**
     of **clusters** enables the use of the **K - means   clustering**
    algorithm to segment the regions without the need to specify the
    expected **number** of **clusters** and the initial **cluster   centres** .
Identifiers--KeyWords Plus: COLOR
Research Fronts: 95-5150 001   (GLOBAL SHAPE; TRACKING LEVEL SETS; MACHINE
    VISION; SURFACE ORIENTATION; DEPTH RELIEF; PARAMETRIC MANIFOLDS;
    FUNDAMENTAL- **GROUPS** OF ALGEBRAIC-VARIETIES)
Cited References:
    DREW MS, 1990, P393, DEC P IEEE INT C COM
    EGAN WG, 1979, OPTICAL PROPERTIES I
    FUNT BV, 1993, V15, P1319, IEEE T PATTERN ANAL
    HEALEY G, 1989, V6, P920, J OPT SOC AM A
    HUNTER RS, 1975, MEASUREMENT APPEARAN
    KLINKER GJ, 1990, V4, P7, INT J COMPUT VISION
    NAYAR SK, 1990, P2, P IEEE INT C COMP VI
    SHAFER SA, 1985, V10, P210, COLOR RES APPL
    TORRANCE KE, 1967, V57, P1105, J OPT SOC AM
    TOU JT, 1974, P94, PATTERN RECOGN
    WEISSHOPF V, 1968, V219, P60, SCI AM

9/5/3   (Item 3 from file: 34)

05188249   Genuine Article#: VF754   Number of References: 55
Title: MIXED DATA-TYPES AND THE USE OF PATTERN-ANALYSIS ON THE AUSTRALIAN

GROUNDNUT GERMPLASM DATA

Author(s): HARCH BD; BASFORD KE; DELACY IH; LAWRENCE PK; CRUICKSHANK A
Corporate Source: CSIRO,NAT RESOURCES INST,PMB 2/GLEN OSMOND/SA
    5064/AUSTRALIA/; AUSTRALIAN TROP FIELD CROPS GENET RESOURCE
    CTR/BILOELA/QLD 4715/AUSTRALIA/; UNIV QUEENSLAND,DEPT AGR/BRISBANE/QLD
    4072/AUSTRALIA/; J BJELKE PETERSEN RES STN/KINGAROY/QLD 4610/AUSTRALIA/
Abstract: Data in germplasm collections contain a mixture of data types;
    binary, multistate and **quantitative** . Given the multivariate nature of
    these data, the pattern analysis methods of **classification** and
    ordination have been identified as suitable techniques for
    statistically evaluating the available diversity. The proximity (or
    resemblance) measure, which is in part the basis of the complementary
    nature of **classification** and ordination techniques, is often specific
    to particular data types. The use of a combined resemblance matrix has
    an advantage over data type specific proximity measures. This measure
    accommodates the different data types without manipulating them to be
    of a specific type. Descriptors are **partitioned** into their data types
    and an appropriate proximity measure is used on each. The separate
    proximity matrices, after range standardisation, are added as a
    weighted average and the combined resemblance matrix is then used for
    classification and ordination.

    Germplasm evaluation data for 831 accessions of groundnut (Arachis
    hypogaea L,) from the Australian Tropical Field Crops Genetic Resource
    Centre , Biloela, Queensland were examined. Data for four binary, five
    ordered multistate and seven **quantitative** descriptors have been
    documented. The interpretative value of different weightings - equal
    and unequal weighting of data types to obtain a combined resemblance
    matrix - was investigated by using principal co-ordinate analysis
    (ordination) and hierarchical **cluster** analysis.

    Equal weighting of data types was found to be more valuable for
    these data as the results provided a greater insight into the patterns
    of variability available in the Australian groundnut germplasm
    collection. The complementary nature of pattern analysis techniques
    enables plant breeders to identify relevant accessions in relation to
    the descriptors which distinguish amongst them. This additional
    information may provide plant breeders with a more defined entry point
    into the germplasm collection for identifying sources of variability
    for their plant improvement program, thus improving the utilisation of
    germplasm resources.
Descriptors--Author Keywords: **CLASSIFICATION** ;   GENETIC DIVERSITY ;
    GROUNDNUT ; MIXED DATA TYPES ; ORDINATION
Identifiers--KeyWords Plus: AMERICAN OAT GERMPLASMS; **CLUSTER** -ANALYSIS;
    COLLECTION; CHARACTERS
Research Fronts: 94-0167 002   (MAXIMUM-ENTROPY RECONSTRUCTION; INCOMPLETE
    INFORMATION; QUANTUM THERMODYNAMICS)
  94-3138 001   (LARVAL FISH ASSEMBLAGES; NEKTON COMMUNITY; DIVERSITY
    PATTERNS)
  94-6371 001   (NEURAL NETWORKS; **K - MEANS   CLUSTERING** ; PAI-2 IN BREAST
    CARCINOMAS; MULTIVARIATE DATA-ANALYSIS)
Cited References:
    GENEFLOW JUN, 1989, P6
    IBPGR ICRISAT, 1992, DESCR GROUNDN
    SAS I, 1989, SAS US GUID
    ANDERBERG MR, 1973, CLUSTER ANAL APPLICA
    BARNETT V, 1981, INTERPRETING MULTIVA
    BELBIN L, 1993, PATN TECHNICAL REFER
    BRAY JR, 1957, V27, P325, ECOL MONOGR
    BURR EJ, 1968, V1, P97, AUST COMPUT J

CAIN AJ, 1958, V131, ●5, P ZOOL SOC LONDON
DIGBY PGN, 1987, MULTIVARIATE ANAL EC
DUCKER SC, 1965, V13, P489, AUST J BOT
ESQUIVEL M, 1993, V91, P9, FAO IBPGR PLANT GENE
ESQUIVEL M, 1993, V91, P17, FAO IBPGR PLANT GENE
FRANKEL OH, 1984, V4, P1, GENETICS NEW FRONTIE
GOODALL DW, 1966, V22, P882, BIOMETRICS
GORDON AD, 1981, CLASSIFICATION METHO
GOWER JC, 1971, V27, P857, BIOMETRICS
GOWER JC, 1967, V17, P13, STATISTICIAN
GREGORY WC, 1967, V19, P42, CIENCIA CULTURA
HARCH BD, 1995, V42, P243, GENET RESOUR CROP EV
HARCH BD, 1995, V15, INT ARACHIS NEWSL
HARTIGAN JA, 1975, CLUSTERING ALGORITHM
HENNING RJ, 1982, P123, PEANUT SCI TECHNOLOG
JACCARD P, 1901, V37, P241, B SOC VAUD SCI NAT
KAUFMAN L, 1990, FINDING GROUPS DATA
KOUAME CN, 1993, V40, P39, GENET RESOUR CROP EV
KRAPOVICKAS A, 1968, V2, P517, ACT MEM 37 C INT AM
KRAPOVICKAS A, 1951, V5, P289, REV INVEST AGR BUENO
KRAPOVICKAS A, 1960, V12, P197, REV INVEST AGR BUENO
LANCE GN, 1967, V1, P15, AUST COMPUT J
LAWRENCE P, 1989, V20, P1, AUST PLANT INTRO REV
MILLIGAN GW, 1988, V5, P181, J CLASSIF
ODUM EP, 1950, V31, P587, ECOLOGY
PECETTI L, 1992, V60, P229, EUPHYTICA
PEETERS JP, 1989, V78, P42, THEOR APPL GENET
RADLOFF DL, 1978, V24, P3, FOREST SCI
ROMESBURG HC, 1984, CLUSTER ANAL RES
RUBIN J, 1967, V15, P103, J THEOR BIOL
SHANNON CE, 1948, V27, P379, BELL SYST TECH J
SHANNON CE, 1948, V27, P623, BELL SYST TECH J
SHARPIRO SS, 1965, V52, P591, BIOMETRIKA
SHARPIRO SS, 1968, V63, P1343, J AM STAT ASSOC
SNEATH PHA, 1973, NUMERICAL TAXONOMY P
SOKAL RR, 1963, PRINCIPLES NUMERICAL
SOUZA E, 1991, V31, P599, CROP SCI
SOUZA E, 1991, V31, P605, CROP SCI
SPATH H, 1980, CLUSTER ANAL ALGORIT
TUKEY JW, 1977, EXPLORATORY DATA ANA
VERONESI F, 1988, V38, P211, EUPHYTICA
WARD JH, 1963, V58, P236, J AM STAT ASSOC
WATSON L, 1967, V178, P25, P LINN SOC LONDON
WILLIAMS WT, 1958, V182, P1755, NATURE
WILLIAMS WT, 1976, PATTERN ANAL AGR SCI
WYNNE JC, 1982, P50, PEANUT SCI TECHNOLOG
ZAR JH, 1984, BIOSTATISTICAL ANAL

9/5/4   (Item 4 from file: 34)

04914148   Genuine Article#: UT105   Number of References: 60
Title: A GLOBAL TAXONOMY OF LOOPS IN GLOBULAR-PROTEINS
Author(s): KWASIGROCH JM; CHOMILIER J; MORNON JP
Corporate Source: UNIV PARIS 06,LAB MINERAL CRISTALLOG,CASE 115/F-75252
    PARIS 05//FRANCE/; UNIV PARIS 06,LAB MINERAL CRISTALLOG/F-75252 PARIS
    05//FRANCE/; UNIV PARIS 07,CNRS URA 009/F-75252 PARIS 05//FRANCE/
Abstract: A bank of loops from three to eight amino acid residues long has
    been constituted. On the basis of statistical analysis of occurrences
    of conformations and residue, loops could be divided into two parts:

the side residues directly bonded to the secondary structure flanking element, and the inner part. The conformations of the side residues are correlated to the nature of their neighboring flanks, while the inner residues adopt conformations uncorrelated from one residue to the next; thus they are unrelated to the flanks. Two zones in the Ramachandran plot are important: alpha(L) and beta(p). In particular, the high occurrence of alpha(L), mainly occupied by glycine residues, is necessary to induce flexibility and thus allow loops to comply with the geometrical constraints of the flanks. An algorithm of **clustering** has been used to aggregate loops of the same length within families of similar 3D structures. At each position in each **cluster**, sequence and conformational signatures have been deduced if the occurrence of a residue (or a conformation) is higher than an equiprobable distribution over all **clusters**. The result is that some positions favor particular amino acids and conformations, which are typical of a **cluster** although not unique. This is an indication of a relation between structure and sequence in loops. A taxonomy is proposed that **classifies** the various **clusters**. It relies on two terms: the mean distance between the first and last C-alpha in one **cluster** and, perpendicular to this **line**, the distance to the **center** of gravity of the **cluster**. It is noteworthy that the differently populated **clusters** represented in such 2D plots can be separated. Thus, although the conformations of loops in globular proteins could cover a continuum, it has been possible to **cluster** them into a **limited number** of well populated families and superfamilies. This basic feature of protein architecture could be further exploited to better predict their geometry. (C) 1996 Academic Press **Limited**

Descriptors--Author Keywords: LOOPS ; PROTEINS ; STRUCTURAL BIOLOGY ; MOLECULAR MODELING ; TAXONOMY

Identifiers--KeyWords Plus: SECONDARY STRUCTURE; CONFORMATIONAL SEARCH; BETA-HAIRPINS; **CLASSIFICATION**; FEATURES; MOTIFS; IMMUNOGLOBULINS; IDENTIFICATION; ALGORITHM; DIVERSITY

Research Fronts: 94-0083 003   (2.8 ANGSTROM RESOLUTION; REFINED CRYSTAL-STRUCTURE; KNOWLEDGE-BASED PROTEIN MODELING)
   94-5082 002   (**LINEAR** PEPTIDE; REVERSE TURN CONFORMATION; REFINED CRYSTAL-STRUCTURE; MIRROR-IMAGE FORMS)
   94-1587 001   (GLYCOSIDASE INHIBITORS; CHEMISTRY OF CASTANOSPERMINE; XYLANASE GENE; ACTIVE-SITE RESIDUES; KRAFT PULPS)
   94-6371 001   (NEURAL NETWORKS; **K - MEANS CLUSTERING** ; PAI-2 IN BREAST CARCINOMAS; MULTIVARIATE DATA-ANALYSIS)
   94-7468 001   (MODEL HELICAL PEPTIDE; RATIONAL DESIGN; N-TERMINAL CAPPING BOX; MOLECULAR-DYNAMICS SIMULATION OF A LEUCINE-ZIPPER MOTIF; STABILIZING INTERACTIONS)

Cited References:
    ADZHUBEI AA, 1987, V5, P689, J BIOMOL STRUCT DYN
    BERNSTEIN FC, 1977, V112, P535, J MOL BIOL
    BRUCCOLERI RE, 1988, V335, P564, NATURE
    CASARI G, 1995, V2, P171, STRUCT BIOL
    CHAN AWE, 1993, V2, P1574, PROTEIN SCI
    CHELVANAYAGAM G, 1994, V7, P173, PROTEIN ENG
    CLAESSENS M, 1989, V2, P335, PROTEIN ENG
    COHEN BI, 1993, V2, P2134, PROTEIN SCI
    COLLOCH N, 1991, V221, P603, J MOL BIOL
    COLLOCH N, 1993, V6, P377, PROTEIN ENG
    COLLURA V, 1993, V2, P1502, PROTEIN SCI
    EDWARDS MS, 1987, V1, P173, PROTEIN ENG
    EFIMOV AV, 1986, V20, P250, MOL BIOL
    EFIMOV AV, 1993, V60, P201, PROG BIOPHYS MOL BIO
    EFIMOV AV, 1991, V4, P245, PROTEIN ENG
    FECHTELER T, 1995, V253, P114, J MOL BIOL
    FETROW JS, 1995, V9, P708, FASEB J
    FIDELIS K, 1994, V7, P953, PROTEIN ENG
    FINE RM, 1986, V1, P342, PROTEINS
    GREER J, 1990, V7, P317, PROTEINS
    HENIKOFF S, 1992, V89, P915, P NATL ACAD SCI USA
    HIGO JI, 1992, V32, P33, BIOPOLYMERS
    HUTCHINSON EG, 1994, V3, P2207, PROTEIN SCI
    JAIN AK, 1988, ALGORITHMS CLUSTERIN

JONES TA, 1986, V5, P⬤9, EMBO J
KABSCH W, 1983, V22, P2577, BIOPOLYMERS
KOEHL P, 1995, V2, P163, NAT STRUCT BIOL
LASKOWSKI RA, 1993, V231, P1049, J MOL BIOL
LESZCZYNSKI JF, 1986, V234, P849, SCIENCE
LEWIS PN, 1973, V303, P211, BIOCHIM BIOPHYS ACTA
LUTHY R, 1991, V10, P229, PROTEINS
MAS MT, 1992, V14, P483, PROTEINS
MATTOS C, 1994, V238, P733, J MOL BIOL
MILNERWHITE EJ, 1986, V240, P289, BIOCHEM J
MOULT J, 1986, V1, P146, PROTEIN-STRUCT FUNCT
PEITSCH MC, 1995, V13, P658, BIOTECHNOLOGY
RICE PA, 1990, V8, P334, PROTEINS
RICHARDS FM, 1988, V3, P71, PROTEINS
RICHARDSON JS, 1981, V34, P167, ADV PROTEIN CHEM
RICHARDSON JS, 1988, V240, P1648, SCIENCE
RING CS, 1992, V224, P685, J MOL BIOL
ROOMAN MJ, 1990, V213, P327, J MOL BIOL
SALI A, 1995, V23, P318, PROTEIN-STRUCT FUNCT
SANDER C, 1991, V9, P56, PROTEINS
SCHEERLINCK JPY, 1992, V12, P299, PROTEINS
SIBANDA BL, 1991, V202, P59, METHOD ENZYMOL
SIBANDA BL, 1985, V316, P170, NATURE
SKLENAR H, 1989, V6, P46, PROTEINS
SUDARSANAM S, 1995, V4, P1412, PROTEIN SCI
SWINDELLS MB, 1995, V2, P596, NAT STRUCT BIOL
TOPHAM CM, 1993, V229, P194, J MOL BIOL
TRAMONTANO A, 1992, V13, P231, PROTEINS
UNGER R, 1989, V5, P355, PROTEINS
VENKATACHALAM CM, 1968, V6, P1425, BIOPOLYMERS
WILMOT CM, 1988, V203, P221, J MOL BIOL
WILMOT CM, 1990, V3, P479, PROTEIN ENG
WINTJENS RT, 1996, V255, P235, J MOL BIOL
WOODCOCK S, 1992, V5, P629, PROTEIN ENG
ZHENG Q, 1993, V14, P556, J COMPUT CHEM
ZHENG Q, 1994, V3, P493, PROTEIN SCI

9/5/5   (Item 5 from file: 34)

04539144   Genuine Article#: TQ671   Number of References: 48
Title: A SELF- ORGANIZING **NETWORK FOR HYPERELLIPSOIDAL** CLUSTERING **(HEC)**
Author(s): MAO JC; JAIN AK

Corporate Source: IBM CORP,ALMADEN RES CTR/SAN JOSE//CA/95120; MICHIGAN
    STATE UNIV,DEPT COMP SCI/E LANSING//MI/48824; XEROX CORP,PALO ALTO RES
    CTR/PALO ALTO//CA/94304

Abstract: We propose a self- **organizing** network for hyperellipsoidal
    clustering (HEC), The HEC network consists of two layers, The first
    layer employs a **number** of principal component analysis subnetworks
    which are used to estimate the hyperellipsoidal shapes of currently
    formed **clusters** , The second layer then performs a competitive
    learning using the **cluster** shape information provided by the first
    layer. The HEC network performs a **partitional** **clustering** using the
    proposed regularized Mahalanobis distance. This regularized Mahalanobis
    distance is designed to deal with the problems in estimating the
    Mahalanobis distance when the **number** of patterns in a **cluster** is
    less than (ill-posed problem) or not considerably larger than (poorly

posed problem) the dimensionality of the feature space during the
clustering procedure. This regularized distance also achieves a
tradeoff between hyperspherical and hyperellipsoidal **cluster** shapes
so as to prevent the HEC network from producing usually large or
unusually small **clusters** , The significance level of the
Kolmogorov-Smirnov test on the distribution of the Mahalanobis
distances of patterns in a **cluster** to the **cluster** **center** under
the Gaussian **cluster** assumption is used as a compactness measure of
the **cluster** , The HEC network has been tested on a **number** of
artificial data sets and real data sets, We also apply the HEC network
to texture segmentation problems. Experiments show that the HEC network
leads to a significant improvement in the **clustering** results over the
IC-means algorithm with Euclidean distance. Our results on real data
sets also indicate that hyperellipsoidal shaped **clusters** are often
encountered in practice.
Identifiers--KeyWords Plus: PRINCIPAL-COMPONENT ANALYSIS; NEURAL NETWORKS;
  ORGANIZATION; FILTERS
Research Fronts: 94-3009 002   (GABOR REPRESENTATION; IMAGE TEXTURE
  SEGMENTATION; COMPUTATION OF 2-D WAVELET TRANSFORMS; OPTICAL
  CORRELATION FILTER FUSION FOR OBJECT DETECTION)
  94-3728 002   (ARTIFICIAL NEURAL NETWORKS; COMPETITIVE LEARNING;
  DYNAMICAL ADAPTIVE RESONANCE ARCHITECTURE)
  94-6371 002   (NEURAL NETWORKS; **K - MEANS** **CLUSTERING** ; PAI-2 IN BREAST
  CARCINOMAS; MULTIVARIATE DATA-ANALYSIS)
  94-0812 001   (NEURAL NETWORKS; HOPFIELD ASSOCIATIVE MEMORY; EXACTLY
  SOLVABLE MODEL OF UNSUPERVISED LEARNING)
  94-2520 001   (FUZZY **CLUSTERING** ; LAYERED NEURAL NETWORKS; SELF-
  ORGANIZING MULTISENSOR SYSTEMS FOR ODOR **CLASSIFICATION**)
  94-7285 001   (NEURAL NETWORKS; UNSUPERVISED LEARNING; MU-DEPENDENT
  ADAPTIVE ALGORITHMS)
Cited References:
    ABBAS HM, 1992, V2, P975, JUN P IEEE INT JOINT
    BALDI P, 1989, V2, P53, NEURAL NETWORKS
    BALL GH, 1964, P281, SEP P INT C MICR CIR
    BEZDEK JC, 1981, PATTERN RECOGNITION
    BRODATZ P, 1966, TEXTURES PHOTOGRAPHI
    BUHMANN J, 1993, V5, P75, NEURAL COMPUT
    CARPENTER G, 1986, P45, 8TH ANN C COGN SCI S
    CARPENTER GA, 1987, V26, P4919, APPL OPTICS
    CARPENTER GA, 1990, V3, P129, NEURAL NETWORKS
    DAUGMAN JG, 1985, V2, P1160, J OPT SOC AM A
    DUBES RC, 1987, V20, P645, PATTERN RECOGN
    DUDA RO, 1973, PATTERN CLASSIFICATI
    FARROKHNIA F, 1990, THESIS MICHIGAN STAT
    FOLDIAK P, 1989, V1, P401, JUN P IJCNN INT JOIN
    FORGY EW, 1965, V21, P768, BIOMETRICS
    FRIEDMAN JH, 1989, V84, P165, J AM STAT ASSOC
    FUKUNAGA K, 1990, INTRO STATISTICAL PA
    HARTIGAN JA, 1975, CLUSTERING ALGORITHM
    HERTZ J, 1991, INTRO THEORY NEURAL
    HORNIK K, 1992, V5, P229, NEURAL NETWORKS
    JAIN AK, 1988, ALGORITHMS CLUSTERIN
    JAIN AK, 1992, V3, P335, JUN P IEEE INT JOINT
    JAIN AK, 1991, V24, P1167, PATTERN RECOGN
    JAIN AK, 1991, V2, P515, 1991 P IEEE INT JOIN
    JOLION JM, 1991, V13, P791, IEEE T PATTERN ANAL
    KLEIN RW, 1989, V22, P213, PATTERN RECOGN
    KOHONEN T, 1991, P981, ARTIFICIAL NEURAL NE
    KOHONEN T, 1982, V43, P59, BIOL CYBERN
    KOHONEN T, 1989, BIOL CYBERN
    KOHONEN T, 1990, V78, P1464, P IEEE
    KOHONEN T, 1989, SELF ORG ASS MEMORY
    KROGH A, 1990, P183, PARALLEL PROCESSING
    KUNG S, 1990, V1, P861, IEEE INT C AC SPEECH
    LLOYD SP, 1982, V28, P129, IEEE INFO T
    MAO J, 1995, V6, P296, IEEE T NEURAL NETWOR
    MAO J, 1993, V1, P300, MAR P IEEE INT C NEU
    MAO JC, 1992, V25, P173, PATTERN RECOGN

MCQUEEN JB, 1967, P28   5TH P BERK S MATH ST
MILLIGAN GW, 1988, V5, P181, J CLASSIF
OJA E, 1989, V1, P61, INT J NEURAL SYSTEMS
PAL NR, 1993, V4, P549, IEEE T NEURAL NETWOR
PRESS WH, 1988, NUMERICAL RECIPES C
ROSE K, 1993, V8, P785, IEEE T PATTERN ANAL
RUBNER J, 1990, V62, P193, BIOL CYBERN
RUBNER J, 1989, V10, P693, EUROPHYS LETT
SANGER TD, 1989, V2, P459, NEURAL NETWORKS
SMITH SP, 1984, V6, P73, IEEE T PATTERN ANAL
XU L, 1993, V4, P636, IEEE T NEURAL NETWOR

9/5/6   (Item 6 from file: 34)
DIALOG(R)File   34:SciSearch(R) Cited Ref Sci

03962111   Genuine Article#: QV555   Number of References: 111
**Title: ON THE APPLICATION OF CLUSTER -ANALYSIS TO GROWING-SEASON
    PRECIPITATION DATA IN NORTH-AMERICA EAST OF THE ROCKIES**
Author(s): GONG XF; RICHMAN MB
Corporate Source: UNIV OKLAHOMA,COOPERAT INST MESOSCALE METEOROL
    STUDIES,100 E BOYD,ROOM 1110/NORMAN//OK/73019
Journal: JOURNAL OF CLIMATE, 1995, V8, N4 (APR), P897-931
ISSN: 0894-8755
Language: ENGLISH   Document Type: REVIEW
Geographic Location: USA
Subfile: SciSearch; CC PHYS--Current Contents, Physical, Chemical & Earth
    Sciences
Journal Subject Category: METEOROLOGY & ATMOSPHERIC SCIENCES

Abstract: **Cluster** analysis ICA) has been applied to geophysical research
    for over two decades although its popularity has increased dramatically
    over the past few years. To date, systematic methodological reviews
    have not appeared in geophysical literature. In this paper, after a
    review of a large **number** of applications on **cluster** analysis, an
    intercomparison of various **cluster** techniques was carried out on a
    well-studied dataset (7-day precipitation data from 1949 to 1987 in
    central and eastern North America). The **cluster** methods tested were
    single linkage, complete linkage, average linkage between **groups** ,
    average linkage within a new **group** , Ward's method, **k   means** , the
    nucleated agglomerative method, and the rotated principal component
    analysis. Three different dissimilarity measures (Euclidean distance,
    inverse correlation, and theta angle) and three initial **partition**
    methods were also tested on the hierarchical and nonhierarchical
    methods, respectively. Twenty-two of the 23 **cluster** algorithms
    yielded natural **grouping** solutions. Monte Carlo simulations were
    undertaken to examine the reliability of the duster solutions. This was
    done by bootstrap resampling from the full dataset with four different
    sample **sizes** , then testing significance by the t test and the minimum
    significant difference test.

    Results showed that nonhierarchical methods outperformed
    hierarchical methods. The rotated principal component methods were
    found to be the most accurate methods, the nucleated agglomerative
    method was found to be superior to all other hard **cluster** methods,
    and Ward's method performed best among the hierarchical methods. Single
    linkage always yielded ''chaining'' solutions and, therefore, had poor
    matches to the input data. Of the three distance measures tested,
    Euclidean distance appeared to generate slightly more accurate
    solutions compared with the inverse correlation. The theta angle was
    quite variable in its accuracy. Tests of the initial **partition** method
    revealed a sensitivity of **k - means** CA to the selection of the seed
    points. The spatial patterns of **cluster** analysis applied to the full
    dataset were found to differ for various CA methods, thereby creating
    some questions on how to interpret the resulting spatial
    regionalizations. Several methods were shown to incorrectly place
    geographically separated portions of the domain into a single **cluster**
    , The authors termed this type of result ''aggregation error.'' It was

found to be most problematic at small sample **sizes** and more severe
for specific distance measures. The choice of **clustering** technique
and dissimilarity measure/initial **partition** may indeed significantly
affect the results of **cluster** analysis. **Cluster** analysis accuracy
was also found to be **linearly** to logarithmically related to the
sample **size** . This relationship was statistically significant. Several
methods such as Ward's, **k** **means** , and the nucleated agglomerative
were found to reach a higher level of accuracy at a lower sample **size**
compared with other CA methods tested. The level of accuracy reached by
the rotated principal component **clustering** compared with the other
methods tested suggests that application of a hard and nonoverlapping
clustering methodology to fuzzy and overlapping geophysical data
results in a substantial degradation in the regionalizations presented.

Identifiers--KeyWords Plus: SYNOPTIC CLIMATOLOGICAL **CLASSIFICATION** ;
    MIXTURE MODEL TESTS; PRINCIPAL COMPONENTS; UNITED-STATES; CLIMATIC
    CLASSIFICATION ; STATISTICAL TECHNIQUES; DYNAMIC CLIMATOLOGY; SIMILAR
    METEOROLOGY; DEFINE PERIODS; POLAR BASIN

Research Fronts: 93-1833 002   (INTERANNUAL TROPICAL OCEAN-ATMOSPHERE
    INTERACTION; MULTIPLE FLOW REGIMES IN THE NORTHERN-HEMISPHERE WINTER;
    LOW-FREQUENCY VARIABILITY; SOUTHERN OSCILLATION)
  93-3160 001   (ESTUARINE MACROBENTHIC COMMUNITY STRUCTURE; BENTHIC FAUNA;
    BIOLOGICAL FEATURES OF A DRILLING SITE; SEWAGE POLLUTION; NATURAL
    DISTURBANCE; CAPITELLA SP-I)
  93-3588 001   (IMPACT OF GENOTYPE X ENVIRONMENT INTERACTIONS;
    MULTIVARIATE **CLUSTER** -ANALYSIS; PLANT-BREEDING TRIALS; GENETIC
    DIVERSITY)
  93-4826 001   (PHYLOGENETIC POSITION; 18S RIBOSOMAL-RNA GENE SEQUENCE;
    ANAEROBIC THERMOPHILIC BACTERIA)

Cited References:
    ACREMAN MC, 1986, V84, P365, J HYDROL
    ALSOP TJ, 1989, V2, P888, J CLIMATE
    AMBROZ P, 1984, V88, P121, IDOJARAS
    ANDERBERG MR, 1973, CLUSTER ANAL APPLICA
    ANYADIKE RNC, 1987, V7, P157, J CLIMATOL
    AYOADE JO, 1977, V24, P257, ARCH MET GEOPH BIO B
    BARTHOLY J, 1985, V89, P185, IDOGARAS
    BARTHOLY J, 1992, J123, 12TH C PROB STAT ATM
    BENJAMIN Y, 1988, V42, P257, AM STAT
    BLASHFIELD RK, 1976, V83, P377, PSYCHOL BULL
    BONELL M, 1992, V12, P77, INT J CLIMATOL
    CAPALDO M, 1985, V45, P237, REV METEOR AERONAUT
    CHANGNON S, 1989, V2, P897, J CLIMATE
    CHENG XH, 1993, V50, P2674, J ATMOS SCI
    CORMACK RM, 1971, V134, P321, J ROYAL STATISTICAL
    CRECELIUS EA, 1980, V14, P422, ENVIRON SCI TECHNOL
    CRUTCHER HL, 1982, V21, P978, J APPL METEOROL
    CUNNINGHAM KM, 1972, V15, P209, COMPUT J
    DAVIS RE, 1991, V25, P165, ATMOS ENVIRON B-URB
    DAVIS RE, 1990, V10, P769, INT J CLIMATOL
    DAVIS RE, 1992, V5, P1449, J CLIMATE
    DORLING SR, 1992, V26, P2575, ATMOS ENVIRON A-GEN
    DURAN BS, 1974, CLUSTER ANAL SURVEY
    EASTERLING DR, 1989, V9, P567, INT J CLIMATOL
    EDELBROCK C, 1979, V14, P367, MULTIVARIATE BEHAVIO
    EDELBROCK C, 1980, V15, P299, MULTIVARIATE BEHAVIO
    EVERITT B, 1974, CLUSTER ANAL
    EVERITT BS, 1979, V35, P169, BIOMETRICS
    FELSENSTEIN J, 1985, V39, P783, EVOLUTION
    FERNAU ME, 1990, V29, P735, J APPL METEOROL
    FERNAU ME, 1990, V29, P751, J APPL METEOROL
    FOVELL RG, 1993, V6, P2103, J CLIMATE
    FRENCH V, 1983, P111, 8TH C PROB STAT ATM
    GADGIL S, 1983, V3, P47, J CLIMATOL
    GADGIL S, 1980, V106, P873, Q J R METEOROL SOC
    GALLIANI G, 1985, V5, P487, J CLIMATOL
    GOOSSENS C, 1985, V5, P379, J CLIMATOL
    GORHAM E, 1984, V225, P407, SCIENCE
    GOWER JC, 1967, V23, P623, BIOMETRICS

GUTTMAN NB, 1992, P23⬤ 12TH C PROB STAT ATM
HARTIGAN JA, 1975, CLUSTERING ALGORITHM
HOAGLIN DC, 1986, V81, P991, J AM STAT ASSOC
JOHNSON RA, 1982, APPLIED MULTIVARIATE
JOHNSON SC, 1967, V32, P261, PSCHOMETRIKA
JOLLIFFE IT, 1986, V149, P253, J ROY STAT SOC A GEN
KALKSTEIN LS, 1987, V26, P717, J CLIM APPL METEOROL
KEY J, 1986, V6, P375, J CLIMATOL
KIKUCHIHARA H, 1984, V41, P61, GEOPHYS MAG
KIM D, 1992, J109, 5TH INT M STAT CLIM
KUIPER F, 1975, V31, P777, BIOMETRICS
LAGAREC D, 1986, V20, P3, CLIMATOL B
LANCE GN, 1967, V9, P373, COMPUT J
LANCE GN, 1967, V10, P271, COMPUT J
LEACH JH, 1980, V6, P141, J GREAT LAKES RES
LEDREW EF, 1983, V3, P335, J CLIMATOL
LEDREW EF, 1985, V5, P253, J CLIMATOL
LEDUC S, 1992, P167, 12TH C PROB STAT ATM
MAHERAS P, 1984, V4, P437, J CLIMATOL
MARYON RH, 1985, V5, P561, J CLIMATOL
MATHER PM, 1976, COMPUTATIONAL METHOD
MCBOYLE GR, 1971, V9, P1, AUST GEOGR STUD
MCQUITTY LL, 1967, V17, P21, EDUC PSYCHOL MEAS
MILLIGAN GW, 1980, V45, P325, PSYCHOMETRIKA
MILLIGAN GW, 1985, V50, P159, PSYCHOMETRIKA
MO KC, 1988, V93, P927, J GEOPHYS RES-ATMOSP
MOJENA R, 1977, V20, P359, COMPUT J
MOSLE MP, 1981, V49, P173, J HYDROL
OLENIC EA, 1988, V116, P1682, MON WEA REV
PUNJ G, 1983, V20, P134, J MARKETING RES
PUVANESWARAN M, 1990, V10, P591, INT J CLIMATOL
REICH VT, 1986, V36, P38, Z METEOROL
RICHMAN MB, 1987, V25, P137, ATMOS OCEAN
RICHMAN MB, 1993, V13, P203, INT J CLIMATOL
RICHMAN MB, 1985, V24, P1325, J CLIM APPL METEOROL
RICHMAN MB, 1986, V6, P293, J CLIMATOL
RICHMAN MB, 1986, V6, P293, J CLIMATOL
RICHMAN MB, 1987, V7, P511, J CLIMATOL
RICHMAN MB, 1988, V93, P989, J GEOPHYS RES
RICHMAN MB, 1988, P284, 12TH P ANN CLIM DIAG
RICHMAN MB, 1989, P133, 13TH P ANN CLIM DIAG
RICHMAN MB, 1991, P373, 15TH P ANN CLIM DIAG
RICHMAN MB, 1993, P372, 17TH P ANN CLIM DIAG
RICHMAN MB, 1992, P229, 5TH INT M STAT CLIM
ROHLF FJ, 1981, STATISTICAL TABLES
RONBERG B, 1987, V7, P391, J CLIMATOL
ROUSSEEUW PJ, 1989, V8, P249, TRAC-TREND ANAL CHEM
SANCHEZ ML, 1987, V21, P1521, ATMOS ENVIRON
SANCHEZ ML, 1990, V24, P1509, ATMOS ENVIRON A-GEN
SAUSY DA, 1987, V21, P1649, ATMOS ENVIRON
SKAGGS RH, 1969, V97, P103, MON WEA REV
SNEATH PHA, 1973, NUMERICAL TAXONOMY P
SOKAL RR, 1981, BIOMETRY
SOKAL RR, 1963, PRINCIPLES NUMERICAL
STEINHORST RK, 1985, V21, P1149, WATER RESOUR RES
STONE R, 1992, V12, P625, INT J CLIMATOL
STONE RC, 1989, V9, P3, INT J CLIMATOL
STOOKSBURY DE, 1990, 1 S CAR WAT RES COMM
TAGAMI Y, 1985, V20, P45, GEOGR REP TOKYO METE
TAKEUCHI K, 1982, F MULTIVARIATE ANAL
THURSTONE LL, 1947, MULTIPLE FACTOR ANAL
TRYON RC, 1939, CLUSTER ANAL
TUKEY JW, 1977, EXPLORATORY DATA ANA
WARD JH, 1963, V58, P236, J AM STAT ASSOC
WHITE D, 1991, V11, P1, INT J CLIMATOL
WHITE DA, 1988, THESIS PENNSYLVANIA
WHITE EJ, 1989, V9, P271, INT J CLIMATOL
WHITE EJ, 1981, V13, P241, J ENVIRON MANAGE

WILLMOTT CJ, 1978, V2, P277, ARCH MET GEOPH BIO B
WINKLER JA, 1985, P9, 6TH C HYDR IND IN
WOLTER K, 1987, V26, P540, J CLIM APPL METEOROL
WU CFJ, 1986, V14, P1261, ANN STAT

9/5/7   (Item 7 from file: 34)

01461241   Genuine Article#: HA514   Number of References: 73
**Title: SIMULATION OF MOTION ON THE SKIN .5. EFFECT OF STIMULUS TEMPORAL
FREQUENCY ON THE REPRESENTATION OF MOVING BAR PATTERNS IN PRIMARY
SOMATOSENSORY CORTEX OF MONKEYS**
Author(s): GARDNER EP; PALMER CI; HAMALAINEN HA; WARREN S
Corporate Source: NYU,SCH MED,DEPT PHYSIOL & BIOPHYS/NEW YORK//NY/10016;
    UNIV MISSISSIPPI,MED CTR,DEPT ANAT/JACKSON//MS/39216
Abstract: 1.   To assess the mechanisms used by cortical neurons to sense
    motion across the skin, we applied pulsatile stimuli to a series of
    adjacent positions on the glabrous skin of the hand using a
    computer-controlled OPTACON stimulator. We describe responses of 129
    single neurons in primary somatosensory cortex of alert monkeys to a
    horizontal bar pattern that was displaced proximally or distally in
    1.2-mm steps at 10-, 20-, and 40-ms intervals (100, 50, and 25 Hz,
    respectively). These frequencies span the range in which apparent
    motion is transformed perceptually in humans from a smooth
    uninterrupted sweep into a series of distinct pulses that are resolved
    as separate events. The experiments are thus designed to decipher the
    neural correlates distinguishing continuous motion from discrete taps.

    2. Cortical receptive fields mapped with moving bar patterns
    spanned 5-24 rows on the tactile array (16.2 +/- 5.4, mean +/- SD).
    Over 40% of the fields encompassed 18 or more rows
    (greater-than-or-equal-to 21.6 mm), allowing these neurons to integrate
    spatial information from an entire image displayed on the OPTACON.
    Cortical receptive fields are considerably larger than those of
    mechanoreceptors mapped with the same moving bar patterns (4.2 +/- 2.3
    rows, mean +/- SD), reflecting convergent inputs in subcortical and
    cortical relays. Responses were either relatively uniform across the
    field or strongest at the initial point of entry, depending on the
    frequency of stimulation. A sharply defined field **center** was absent
    from most of the cells recorded in this study.

    3. Temporal frequency of stimulation appears to be a major
    determinant of cortical firing patterns. Low-frequency stimuli are
    more effective in activating cortical neurons, producing more spikes
    per sweep and greater phase-locking to individual stimuli than do high
    frequencies. The **total** spike output of cortical neurons is
    proportional to the pulse interval over the range 10-40 ms, increasing
    linearly by an average of 5.9 spikes/10-ms increase in pulse period.
    Peak firing rates and modulation amplitude are also highest when pulses
    are presented at long intervals, falling significantly as the
    stimulation frequency rises. The reduction in firing at high pulse
    rates is apparently due to **central** mechanisms, as both rapidly
    adapting and Pacinian corpuscle afferents display nearly constant spike
    outputs and uniform sensitivity within the field when tested with
    identical bar patterns. **Central** networks thus behave as low-pass
    filters, reducing cortical responses to rapidly applied sequential
    stimuli.

    4. The **total** spike output of cortical neurons during a sweep is
    considerably larger than that of mechanoreceptors at all frequencies
    tested. **Total** spikes per sweep in the cortex average 9.4 at 100 Hz

and rise to 27.3 at 2█Hz. By contrast, in the periph█y, **total**
output rises from 3.6 to 4.4 spikes/sweep over this range. The
increased cortical responsiveness is due to both larger receptive field
 size as well as an increase in gain at low frequencies.

     5. Average firing rates of cortical neurons do not directly
represent the temporal frequency of stimulation by a one-for-one spike
code, as in the periphery. Cortical firing rates rise more slowly than
the stimulation frequency over the range 25-100 Hz, increasing by an
average of only 0.21 spikes/s per 1-Hz increase in pulse frequency.
Average firing rates are higher than the stimulus frequency when pulses
are stepped across the field at 25 Hz, with gain ranging from 1.3 to
2.9 spikes/pulse. Mean rates are close to the input frequency at 50 Hz
and drop to approximately one-half the input frequency at 100 Hz.

     6. These effects of temporal frequency appear to be mediated by
two **central** mechanisms, amplification and inhibition. We propose
that amplification results from convergent inputs that prolong the
spike trains evoked by individual pulses, leading to merger of
successive responses when stimuli are applied at intervals < 40 ms.
The increased response duration may result from disparities of
conduction velocities of sensory afferents and in **central** pathways,
leading to asynchronous excitatory inputs. Recurrent intracortical
networks, or intrinsic bursting properties, may also prolong evoked
responses of cortical neurons. At high frequencies, the preceding
stimulus appears to reduce the responsiveness of cortical neurons to
subsequent stimuli with a time course resembling that of in-field
inhibition. Inhibition damps fluctuations in firing patterns, thus
smoothing the spike train and eliminating representation of individual
pulses as separate events.

     7. The spike trains evoked in the cortex by the moving bar
patterns are more variable, longer in duration, and less tightly phase
locked to the stimulus pulses than are the mechanoreceptor responses
evoked by the same stimuli. Cortical firing patterns show considerable
diversity and differ in their degree of phase-locking to individual
OPTACON pulses, their duration and probability of firing, and their
average firing rates. We have used **k** - **means   cluster** analysis to
subdivide the population into three **groups** (phasic, burst, and
modulated neurons) on the basis of the modulation amplitude of the
spike trains.

     8. The temporal frequency of stimulation appears to be signaled by
the internal pattern of firing within the spike train rather than by
average firing rates. Phasic and burst neurons are apparently well
suited to represent temporal frequency by oscillation of their spike
trains; they signal the moment of skin contact by the probes as a
synchronous burst of impulses. By contrast, modulated neurons show the
weakest stimulus-linked fluctuations in firing patterns over the entire
range tested. Their activity appears relatively independent of
stimulation rate; these cells may signal other stimulus features.
Phasic neurons accurately depict the timing of stimulus pulses by their
instantaneous firing rates; peaks are observed in their interspike
interval histogram at intervals corresponding to the stimulation
period. The instantaneous firing rates of burst and modulated neurons
appear independent of frequency; peak activity occurs in the same time
bin regardless of frequency. The modal interval occurs at 1-3 ms in
burst neurons and at approximately 10 ms for modulated neurons.

     9. Our data suggest that perception of punctate or moving
sensations may be related to the frequency modulation of cortical spike
trains. Low-frequency stimuli feel pulsatile or punctate; their
cortical responses display strong oscillations in excitability between
bursts of impulses and silent intervals, the timing of which is
directly linked to the individual stimulus pulses. The strong spike
bursts of phasic and burst neurons may provide the physiological
substrate for the distinct sensations evoked at low pulse rates.
High-frequency stimuli appear to move smoothly across the skin. They

are signaled by continuous firing at relatively steady rates. **Central**
neuronal processing attenuates the bursts evoked by sequential pulses
and smooths out variations in firing during the period of stimulation,
resulting in spike trains similar to those evoked by stroking the skin.
Identifiers--KeyWords Plus: MACAQUE VISUAL-CORTEX; CAT STRIATE CORTEX;
ADAPTING MECHANORECEPTIVE AFFERENTS; CORTICAL RECEPTIVE-FIELDS;
MULTIPLE-POINT STIMULI; TACTILE DISCRIMINATION; AWAKE MONKEYS; SIMPLE
CELLS; PSYCHOPHYSICAL MEASUREMENTS; CUTANEOUS MECHANORECEPTORS
Research Fronts: 90-2991 002   (PRIMATE HAND; VIBRATION SENSITIVITY;
TACTILE SENSORY THRESHOLDS; SOMATOSENSORY CORTEX; VIBROTACTILE STIMULI;
MECHANOSENSITIVE NERVE-FIBERS; FINGER MOVEMENT)

Cited References:
ANDERSEN P, 1980, V305, P279, J PHYSL
BLISS JC, 1978, P243, ACTIVE TOUCH MECHANI
BLISS JC, 1970, V11, P58, IEEE T MAN MACHINE S
CAMARDA RM, 1985, V60, P136, EXP BRAIN RES
CAMARDA RM, 1985, V60, P151, EXP BRAIN RES
CHOLEWIAK RW, 1990, V22, P21, BEHAV RES METH INSTR
CHUNG JM, 1986, V56, P308, J NEUROPHYSIOL
COSTANZO RM, 1980, V43, P1319, J NEUROPHYSIOL
DARIANSMITH I, 1985, V10, P17, EXP BRAIN RES S
DARIANSMITH I, 1980, V309, P135, J PHYSL
DARIANSMITH I, 1980, V309, P147, J PHYSL
ESSICK GK, 1985, V10, P187, BRAIN RES REV
ESSICK GK, 1985, V10, P213, BRAIN RES REV
FERRINGTON DG, 1980, V43, P310, J NEUROPHYSIOL
GARDNER EP, 1972, V35, P954, J NEUROPHYSIOL
GARDNER EP, 1980, V43, P420, J NEUROPHYSIOL
GARDNER EP, 1980, V43, P444, J NEUROPHYSIOL
GARDNER EP, 1980, V43, P1342, J NEUROPHYSIOL
GARDNER EP, 1981, V46, P479, J NEUROPHYSIOL
GARDNER EP, 1989, V62, P1410, J NEUROPHYSIOL
GARDNER EP, 1989, V62, P1437, J NEUROPHYSIOL
GARDNER EP, 1990, V63, P841, J NEUROPHYSIOL
GARDNER EP, 1989, P49, SENSORY PROCESSING M
GARDNER EP, 1986, V12, P798, SOC NEUR ABSTR
GARDNER EP, 1987, V13, P472, SOC NEUR ABSTR
GIBSON JJ, 1962, V69, P477, PSYCHOL REV
GOODWIN AW, 1987, V7, P2168, J NEUROSCI
HARTIGAN JA, 1975, CLUSTERING ALGORITHM
HYVARINEN J, 1978, V283, P523, J PHYSL
IWAMURA Y, 1983, V51, P315, EXP BRAIN RES
IWAMURA Y, 1983, V51, P327, EXP BRAIN RES
IWAMURA Y, 1985, V10, P44, EXP BRAIN RES S
JOHANSSON RS, 1979, V286, P283, J PHYSIOL-LONDON
JOHANSSON RS, 1983, V1, P21, SOMATOSENS RES
JOHNSON KO, 1981, V310, P117, J PHYSIOL-LONDON
KIRMAN JH, 1974, V15, P1, PERCEPT PSYCHOPHYS
KRIEGSTEIN AR, 1986, V6, P178, J NEUROSCI
LAMOTTE RH, 1986, V56, P1109, J NEUROPHYSIOL
LAMOTTE RH, 1987, V7, P1655, J NEUROSCI
LAMOTTE RH, 1987, V7, P1672, J NEUROSCI
LASKIN SE, 1979, V42, P1061, J NEUROPHYSIOL
LEDERMAN SJ, 1974, V24, P154, PERCEPT PSYCHOPHYS
LEDERMAN SJ, 1988, V44, P222, PERCEPT PSYCHOPHYS
LOOMIS JM, 1986, V2, P1, HDB PERCEPTION HUMAN
LOOMIS JM, 1974, V16, P401, PERCEPT PSYCHOPHYS
MASON A, 1990, V10, P1415, J NEUROSCI
MIKAMI A, 1986, V55, P1308, J NEUROPHYSIOL
MIKAMI A, 1986, V55, P1328, J NEUROPHYSIOL
MORLEY JW, 1983, V49, P291, EXP BRAIN RES
MOUNTCASTLE VB, 1959, V105, P201, B JOHNS HOPKINS HOSP
MOUNTCASTLE VB, 1969, V32, P452, J NEUROPHYSIOL
MOUNTCASTLE VB, 1990, V10, P3032, J NEUROSCI
NAKAYAMA K, 1984, V24, P293, VISION RES
NAKAYAMA K, 1985, V25, P325, VISION RES
NEWSOME WT, 1986, V55, P1340, J NEUROPHYSIOL
PALMER CI, 1990, V64, P236, J NEUROPHYSIOL

PETERHANS E, 1985, V5, P512, EXP BRAIN RES
PHILLIPS JR, 1988, V85, P1317, P NATL ACAD SCI USA
PHILLIPS JR, 1983, V34, P243, PERCEPT PSYCHOPHYS
ROLAND PE, 1987, V12, P1, BRAIN RES REV
SCHWINDT PC, 1988, V59, P450, J NEUROPHYSIOL
SHERRICK CE, 1966, V1, P175, PERCEPT PSYCHOPHYS
SINCLAIR R, 1991, V66, P153, J NEUROPHYSIOL
SINCLAIR R, 1988, V5, P283, SOMATOSENS RES
VANDOORN AJ, 1982, V45, P189, EXP BRAIN RES
VEGABERMUDEZ F, 1991, V65, P531, J NEUROPHYSIOL
WARREN S, 1986, V56, P598, J NEUROPHYSIOL
WARREN S, 1986, V56, P623, J NEUROPHYSIOL
WARREN S, 1985, V11, P752, SOC NEUR ABSTR
WARREN S, 1989, V15, P659, SOC NEUR ABSTR
WARREN S, 1991, P319, WENNER GREN INT S SE
WHITSEL BL, 1972, V35, P691, J NEUROPHYSIOL
WHITSEL BL, 1979, P79, SENSORY FUNCTIONS SK

9/5/8   (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
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14862413   PASCAL No.: 01-0008588
**Accurate recasting of parameter estimation algorithms using Sufficient
statistics for efficient parallel speed-up: Demonstrated for** center -based
data clustering **algorithms**
  **Principles of data mining and knowledge discovery : Lyon, 13-16 September
2000**
  BIN ZHANG; MEICHUN HSU; FORMAN George
  ZIGHED Djamel A, ed; KOMOROWSKI Jan, ed; ZYTKOW Jan, ed
  Data Mining Solutions Department, Hewlett-Packard Laboratories, United
States
  PKDD 2000 : European conference on principles and practice of knowledge
discovery in databases, 4 (Lyon FRA) 2000-09-13
  Journal: Lecture notes in computer science, 2000, 1910 243-254
  ISBN: 3-540-41066-X ISSN: 0302-9743 Availability: INIST-16343;
354000092001490240
  No. of Refs.: 19 ref.
  Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)
  Country of Publication: Germany; United States
  Language: English
  Fueled by advances in computer technology and online business, data
collection is rapidly accelerating, as well as the importance of its
analysis-data mining. Increasing database **sizes** strain the scalability of
many data mining algorithms. Data **clustering** is one of the fundamental
techniques in data mining solutions. The many **clustering** algorithms
developed face new challenges with growing data sets. Algorithms with
quadratic or higher computational complexity, such as agglomerative
algorithms, drop out quickly. More efficient algorithms, such as **K - Means**
 EM with **linear** cost per iteration, still need work to scale up to large
data sets. This paper shows that many parameter estimation algorithms,
including **K - Means** , K-Harmonic Means and EM, can be recast without
approximation in terms of Sufficient Statistics, yielding an superior
speed-up efficiency. Estimates using today's workstations and local area
network technology suggest efficient speed-up to several hundred computers,
leading to effective scale-up for **clustering** hundreds of gigabytes of
data. Implementation of parallel **clustering** has been done in a parallel
programming language, ZPL. Experimental results show above 90% utilization.

English Descriptors: Learning algorithm; Parallel algorithm; EM algorithm;
  Algorithm complexity; Algorithm performance; Information processing

French Descriptors: Algorithme apprentissage; Algorithme parallele;
  Algorithme EM; Complexite algorithme; Performance algorithme; Traitement
  information

Classification Codes: 001D02C02

9/5/9   (Item 2 from file: 144)
DIALOG(R)File 144:Pascal
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  14826283   PASCAL No.: 00-0509318
  Extending K - means   clustering **to first-order representations**
  ILP 2000 : inductive logic programming : London, 24-27 July 2000
  KIRSTEN M; WROBEL S
  CUSSENS James, ed; FRISCH Alan, ed
  German National Research Center for Information Technology, GMD -,
AiS.KD, Schloss Birlinghoven, 53754 Sankt Augustin, IWS, Germany;
Otto-von-Guericke-Universitaet Magdeburg, IWS, P.O.Box 4120, 39106
Magdeburg, Germany
  International conference on inductive logic programming, 10 (London GBR)
2000-07-24
  Journal: Lecture notes in computer science, 2000, 1866 112-129
  ISBN: 3-540-67795-X ISSN: 0302-9743 Availability: INIST-16343;
354000090070720070
  No. of Refs.: 24 ref.
  Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)
  Country of Publication: Germany; United States
  Language: English
  In this paper, we present an in-depth evaluation of two approaches of
extending **k - means   clustering** to work on first-order representations.
The first-approach, k-medoids, selects its **cluster   center** from the
given set of instances, and is thus **limited** in its choice of **centers** .
The second approach, **k - prototypes** , uses a heuristic prototype
construction algorithm that is capable of generating new **centers** . The two
approaches are empirically evaluated on a standard benchmark problem with
respect to **clustering** quality and convergence. Results show that in this
case indeed the k-medoids approach is a viable and fast alternative to
existing agglomerative or top-down **clustering** approaches even for a
small-scale dataset, while **k - prototypes** exhibited a **number** of
deficiencies.

English Descriptors: Heuristic programming; Logical programming; Algorithm
  performance; Knowledge representation; Knowledge acquisition; Inductive
  reasoning

French Descriptors: Programmation heuristique; Programmation logique;
  Performance algorithme; Representation connaissances; Acquisition
  connaissances; Raisonnement inductif

Classification Codes: 001D02C02

9/5/10   (Item 3 from file: 144)
DIALOG(R)File 144:Pascal
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  14327013   PASCAL No.: 99-0535262
  Regional estimation of design summer flood discharges in small catchments
of northern Slovakia
  Hydrological extremes : understanding, predicting, mitigating :
Birmingham, 18-30 July 1999
  KOHNOVA S; SZOLGAY J
  GOTTSCHALK Lars, ed; OLIVRY Jean-Claude, ed; REED Duncan, ed; ROSBJERG
Dan, ed
  Department of Land and Water Resources Management, Faculty of Civil
Engineering, Slovak Technical University, Radlinskeho 11, 813 68 Bratislava
, Slovakia

International Union of ⬤desy and Geophysics, Bruxelles, ◖Belgium.
Hydrological extremes. International symposium (Birmingham GBR)
1999-07-18
Journal: IAHS-AISH publication, 1999 (255) 265-268
ISBN: 1-901502-85-6 ISSN: 0144-7815 Availability: INIST-8967;
354000080041120320
Illus.: Tables   No. of Refs.: 5 ref.
Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)
Country of Publication: United Kingdom
Language: English
Design floods in ungauged small and mid- **sized** basins in Slovakia are
usually computed from simple regional flood formulae. In this paper other
regional approaches have been tested in the flysh region in northern
Slovakia. Sub-regions were constructed using hydrologic reasoning based on
basin properties and **K** - **means** **clustering** of 17 physiographic basin
characteristics and annual summer flood statistics from 43 basins. Regional
formulae for the computation of the mean annual summer flood and its
standard deviation were derived. Comparison of flood quantiles computed
from data and from the formulae showed similar results for all tested
methods. The practical applicability of the derived formulae is **limited**
 and possible reasons for this are discussed.

English Descriptors: Slovakia; drainage basins; floods; statistics;
   standard deviation; river discharge; statistical analysis
Broad Descriptors: **Central** Europe; Europe; Europe **Centrale** ; Europe;
   Europa **central** ; Europa

French Descriptors: Slovaquie; Bassin versant; Crue; Statistique; Ecart
   type; Debit riviere; Analyse statistique

Classification Codes: 226A01; 226B02; 001E01N01; 001E01O02
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 9/5/11   (Item 4 from file: 144)
DIALOG(R)File 144:Pascal
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   13849933   PASCAL No.: 99-0026578
   Segmentation of textured images based on multiple fractal feature
combinations
   Visual inforamtion processing VII : Orlando FL, 13-14 April 1998
   CHARALAMPIDIS D; KASPARIS T; ROLLAND J
   PARK Stephen K, ed; JUDAY Ricahrd D, ed
   Department of Electrical and Computer Engineering, University of Central
Florida, Orlando, FL 32816, United States; Center for Research and
Education in Optics and Lasers, University of Central Florida, Orlando, FL
32816, United States
   International Society for Optical Engineering, Bellingham WA, United
States.
   Visual information processing. Conference, 7 (Orlando FL USA) 1998-04-13
   Journal: SPIE proceedings series, 1998, 3387 25-35
   ISBN: 0-8194-2836-1 ISSN: 1017-2653 Availability: INIST-21760;
354000070129000030
   No. of Refs.: 10 ref.
   Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)
   Country of Publication: United States
   Language: English
   This paper describes an approach to segmentation of textured grayscale
images using a technique based on image filtering and the fractal dimension
(FD). Twelve FD features are computed based on twelve filtered versions of
the original image using directional Gabor filters. Features are computed
in a window and mapped to the **central** pixel of this window. An iterative
 K - **means** -based algorithm which includes feature smoothing and takes into
consideration the **boundaries** between textures is used to segment an image
into a desired **number** of **clusters** . This approach is partially
supervised since the **number** of **clusters** has to be predefined. The

fractal features are comp●●d to Gabor energy features and ●●e iterative **K**
- **means** algorithm is compared to the original **K - means clustering**
approach. The performance of segmentation for noisy images is also studied.

English Descriptors: Segmentation; Image processing; Texture analysis; Grey
   level image; Fractal dimension; Iterative program; Noisy image;
   Identification; Frequency characteristic; Experimental result;
   Multiplicative noise

French Descriptors: Segmentation; Traitement image; Analyse texture; Image
   niveau gris; Dimension fractale; Programme iteratif; Image bruitee;
   Identification; Caracteristique frequentielle; Resultat experimental;
   Bruit multiplicatif; Filtre Gabor

Classification Codes: 001D04A05C

9/5/12   (Item 5 from file: 144)
DIALOG(R)File 144:Pascal
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12114466   PASCAL No.: 95-0344863
On the application of cluster **analysis to growing season precipitation
data in North America east of the Rockies**
   XIAOFENG GONG; RICHMAN M B
   Univ. Oklahoma, cooperative inst. mesoscale meteorological studies,
Norman OK 73019-0628, USA
   Journal: Journal of climate, 1995, 8 (4) 897-931
   ISSN: 0894-8755 Availability: INIST-9644B; 354000056970660180
   No. of Refs.: 2 p. 1/4
   Document Type: P (Serial) ; A (Analytic)
   Country of Publication: USA
   Language: English
   Cluster analysis (CA) has been applied to geophysical research for over
two decades although its popularity has increased dramatically over the
past few years. To date, systematic methodological reviews have not
appeared in geophysical literature. In this paper, after a review of a
large **number** of applications on **cluster** analysis, an intercomparison of
various **cluster** techniques was carried out on a well-studied dataset
(7-day precipitation data from 1949 to 1987 in **central** and eastern North
America). The **cluster** methods tested were single linkage, complete
linkage, average linkage between **groups** , average linkage within a new
group , Ward's method, **k means** , the nucleated agglomerative method,
and the rotated principal component analysis. Three different dissimilarity
measures (Euclidean distance, inverse correlation, and theta angle) and
three initial **partition** methods were also tested on the hierarchical and
nonhierarchical methods, respectively. Twenty-two of the 23 **cluster**
algorithms yielded natural **grouping** solutions. Monte Carlo simulations
were undertaken to examine the reliability of the **cluster** solutions. This
was done by bootstrap sampling from the full dataset with four different
sample **sizes** , then testing significance by the t test and the minimum
significant difference test. Results showed that nonhierarchical methods
outperformed hierarchical methods. The rotated principal component methods
were found to be the most accurate methods, the nucleated aggomerative
method was found to be superior to all other hard **cluster** methods, and
Ward's method performed best among the hierarchical methods. Singe linkage
always yielded "chaining" solutions and, therefore, had poor matches to the
input data. Of the three distance measures tested, Euclidean distance
appeared to generate slightly more accurate solutions compared with the
inverse correlation. The theta angle was quite variable in its accuracy.
Tests of the initial **partition** method revealed a sensitivity of k-

English Descriptors: Data analysis; **Cluster** analysis; Atmospheric
   precipitation; Theoretical study; North America
Broad Descriptors: America; Amerique; America

French Descriptors: Analyse donnee; Analyse amas; Precipitation
atmospherique; Etude theorique; Amerique du Nord

Classification Codes: 001E02F

9/5/13   (Item 1 from file: 6)
DIALOG(R)File   6:NTIS

1987274 NTIS Accession Number: PB97-122774
   Application of Cluster **Analysis to Growing Season Precipitation Data in
North America East of the Rockies**
   (Journal article)
   Gong, X. ; Richman, M. B.
   Oklahoma Univ., Norman. Cooperative Inst. for Mesoscale Meteorological
Studies.
   Corp. Source Codes: 006843003
   Sponsor: Environmental Protection Agency, Research Triangle Park, NC.
National Exposure Research Lab.
   Report No.: EPA/600/A-96/089
   cApr 95   46p
   Languages: English   Document Type: Journal article
   Journal Announcement: GRAI9705
   Pub. in Jnl. of Climate, v8 n4 Apr 95. Sponsored by Environmental
Protection Agency, Research Triangle Park, NC. National Exposure Research
Lab.
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customers); (703)605-6000 (other countries); fax at (703)321-8547; and
email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road,
Springfield, VA, 22161, USA.
   NTIS Prices: PC A04/MF A01
   Country of Publication: United States
   Contract No.: EPA-R-816318-02-0
   Cluster analysis (CA) has been applied to geophysical research for over
two decades although its popularity has increased dramatically over the
past few years. To date, systematic methodological reviews have not
appeared in geophysical literature. In this paper, after a review of a
large **number** of applications on **cluster** analysis, an intercomparison of
various **cluster** techniques was carried out on a well-studied dataset
(7-day precipitation data from 1949 to 1987 in **central** and eastern North
America). The **cluster** methods tested were single linkage, complete
linkage, average linkage between **groups** , average linkage within a new
 group , Ward's method, **k** **means** , the nucleated agglomerative method,
and the rotated principal component analysis. Three different dissimilarity
measure (Euclidean distance, inverse correlation, and theta angle) and
three initial **partition** methods were also tested on the hierarchical and
nonhierarchical methods, respectively. Twenty-two of the 23 **cluster**
 algorithms yielded natural **grouping** solutions. Monte Carlo simulations
were undertaken to examine the reliability of the **cluster** solutions. This
was done by bootstrap resampling from the full dataset with four different
sample **sizes** , then testing significance by the t test and the minimum
significant difference test.
   Descriptors: **Cluster** analysis; *Precipitation(Meteorology); *Geophysics
; Algorithms; Monte Carlo Method; Reprints
   Identifiers: NTISEPAORD
   Section Headings: 55E (Atmospheric Sciences--Physical Meteorology); 68A
(Environmental Pollution and Control--Air Pollution and Control)

9/5/14   (Item 2 from file: 6)
DIALOG(R)File   6:NTIS

1772321 NTIS Accession Number: AD-A271 691/8
   Some **Extensions of the** K - Means **Algorithm for Image Segmentation and**
Pattern Classification

  In this paper we present some extensions to the **k - means** algorithm for
vector quantization that permit its efficient use in image segmentation and
pattern   **classification**   tasks.   It   is   shown   that by introducing state
variables that correspond to certain statistics of the dynamic behavior of
the   algorithm,   it is possible to find the representative **centers** of the
lower dimensional manifolds that define the **boundaries** between classes,
for   clouds   of   multi-dimensional, multi-class data; this permits one, for
example,   to   find   class   **boundaries**   directly from sparse data (e.g., in
image   segmentation   tasks)   or   to efficiently place **centers** for pattern
 classification   (e.g., with local Gaussian **classifiers**). The same state
variables   can   be used to define algorithms for determining adaptively the
optimal   **number**   of   **centers**   for clouds of data with space-varying
density.   Some   examples   of   the   application of these extensions are also
given.   **K   -   Means** , Vector quantization, **Classification** , **Clustering** ,
Segmentation.
  Descriptors: Algorithms; *Segmented; *Image processing; **Boundaries ;**
 Classification ;   **Clustering** ; Density; Dynamics; Quantization; Statistics
; Variables
  Identifiers: *Pattern recognition; NTISDODXA; NTISNSFG
  Section   Headings: 62F   (Computers,   Control,   and   Information
Theory--Pattern Recognition and Image Processing)

9/5/15   (Item 1 from file: 94)
Diagnosis Support System for Frontal Lobe Atrophy.
SATO KAZUHITO (1); TAKAHASHI AKINORI (1); TAKIMORI TOORU (1); NARITA YUICHI
    (1); NAMURA IKURO (2)
(1) Akita Univ., Min. Coll.; (2) Akita Univ., Health Care Center
ABSTRACT: The **K - means** and fuzzy **K - means** methods were applied to
    evaluate brain atrophy, especially in the frontal lobe. The technique
    used for a **quantitative** image diagnosis involved two steps: 1)
    limiting the brain area to exclude the extracerebral structure, i.e.,
    skin, bone and fat tissue; 2) segmentation of the brain area by fuzzy
    clustering , in which the transitional zone between CSF and the white
    matter was treated as one independent area, consequently corresponding
    to the gray matter. Preliminary results from patient data show that
    this system works effectively and gives useful indications for
    decision-making in clinical practice. (author abst.)
DESCRIPTORS: atrophy(disease); frontal lobe; NMR imaging; human(primates)
BROADER DESCRIPTORS: disease; cerebral hemisphere; telencephalon;

prosencephalon; brain● central nervous system; nervo● system; image
technology; technology; diagnostic imaging; diagnosis
CLASSIFICATION CODE(S): GN02000H

9/5/16   (Item 2 from file: 94)

01437904   JICST ACCESSION NUMBER: 92A0057201   FILE SEGMENT: JICST-E
Piecewise linear **approximation of discontinuous contour images by
   utilizing** clustering **method.**
WATANABE TAKASHI (1); SUZUKI KAZUYA (1)
(1) Iwate Univ., Faculty of Engineering
ABSTRACT: A new piecewise **linear** approximation method for discontinuous
   contour pictures is presented. The method is based on a **clustering**
   procedure and its **clustering** criterion is defined on **line** segments
   that correspond to gravity **centers** of **clusters** in the case of the
   k - means method. Two **clustering** types are adopted, which are hard
   clustering and fuzzy one. The suitable **number** of segments can be
   determined adaptively and accelerating modifications are also added.
   The experimental results demonstrate the validity and the effectiveness
   of the proposed method. (author abst.)
DESCRIPTORS: **clustering** ; broken **line** approximation; evaluation function
   ; discontinuity; image reproduction; contour approximation
BROADER DESCRIPTORS: modification; approximation method;
   function(mathematics); mapping(mathematics); property; image processing
   ; information processing; treatment; regeneration
CLASSIFICATION CODE(S): JE04000X

9/5/17   (Item 1 from file: 2)

7209907   INSPEC Abstract Number: B2002-04-6135-167, C2002-04-5260B-227
   Title: Color image segmentation based on clustering **using color space
distance and neighborhood relation among pixels**
   Author(s): Hwajeong Lee; Hwangsoo Kim
   Abstract: Proposes a   color   image segmentation method based on
gravitational **clustering** using a neighborhood relation in the spatial
domain and distance information in the RGB space among the pixels. A pixel
has a color value (R,G,B) in the color space and location information (x,y)
in the spatial domain. Most segmentation algorithms based on **clustering**
perform their procedure using the color space distance after pixels have
been mapped from the spatial domain to the color space, ignoring their
neighborhood relation, but we use both the distance in the color space and
the neighborhood relation in the spatial domain. We use gravitational
 clustering , imitating the law of gravity, as our **clustering** algorithm.
This gravitational algorithm automatically determines the **number** and

center values of the ●clusters . We compare our res●s with another **clustering** algorithm (**K - means**). It is shown that the proposed method is efficient in finding exact **boundaries** .   (16 Refs)
   Subfile: B C
   Descriptors: **edge** detection; gravity; image colour analysis; image segmentation; pattern **clustering**
   Identifiers: color image segmentation method; gravitational **clustering** ; color space distance; pixel neighborhood relation; spatial domain; RGB space; pixel color value; pixel location information; **cluster number** determination; **cluster center** values; **K - means clustering** algorithm; exact **boundary** determination
   Class Codes: B6135 (Optical, image and video signal processing); C5260B (Computer vision and image processing techniques)

   9/5/18   (Item 2 from file: 2)

6453554   INSPEC Abstract Number: B2000-02-6320E-005, C2000-02-7410F-054
   Title: An novel on- line **learning structure variable radial basis function nets with application on passive sonar target** classification
   Author(s): Song Ai-Guo
   Author Affiliation: Dept. of Instrum. Sci., Southeast Univ., Nanjing, China
   Abstract: In this paper, a novel structure variable radial basis function networks (SVRBF networks) is proposed, whose hidden layer nodes can be modified on- **line** , and Evolutionary Computation (EC) is used to optimally determine and modify the **total number** of hidden layer nodes and their core function's **center** and width of the SVRBF networks. The SVRBF networks are then used for passive sonar target **classification** and learning on- **line** , and the result of experiment shows that the EC based SVRBF networks have better generalization performance than **k - means** based RBF nets, and are effective in solving the problem of forgetting the old patterns in on- **line** learning which exists in passive sonar target recognition by using conventional neural networks. (9 Refs)
   Subfile: B C
   Descriptors: evolutionary computation; learning (artificial intelligence) ; radial basis function networks; signal **classification** ; sonar target recognition; telecommunication computing
   Identifiers: on- **line** learning; structure variable radial basis function network; evolutionary computation; passive sonar target **classification** ; neural network
   Class Codes: B6320E (Sonar and acoustic radar); B0260 (Optimisation techniques); C7410F (Communications computing); C1230D (Neural nets); C1230L (Learning in AI); C1260S (Signal processing theory); C1180 (Optimisation techniques)

   9/5/19   (Item 3 from file: 2)

5767900   INSPEC Abstract Number: C9801-1250-143
 Title: Clustering **via concave minimization**
   Author(s): Bradley, P.S.; Mangasarian, O.L.; Street, W.N.
   Author Affiliation: Dept. of Comput. Sci., Wisconsin Univ., Madison, WI, USA

Conference Title: Adv●●es in Neural Information Proc●●ing Systems 9.
Proceedings of the 1996 Conference   p.368-74
   Editor(s): Mozer, M.C.; Jordan, M.I.; Petsche, T.
   Publisher: MIT Press, London, UK
   Publication Date: 1997 Country of Publication: UK   xvi+1098 pp.
   ISBN: 0 262 10065 7   Material Identity Number: XX97-02852
   Conference Title: Advances in Neural Information Processing Systems 9.
Proceedings of the 1996 Conference
   Conference Date: 2-5 Dec. 1996   Conference Location: Denver, CO, USA
   Language: English   Document Type: Conference Paper (PA)
   Treatment: Applications (A); Theoretical (T); Experimental (X)
   Abstract: The problem of assigning m points in the n-dimensional real
space R/sup n/ to k **clusters** is formulated as that of determining k
 centers in R/sup n/ such that the sum of distances of each point to the
nearest **center** is minimized. If a polyhedral distance is used, the
problem can be formulated as that of minimizing a piecewise- **linear**
concave function on a polyhedral set which is shown to be equivalent to a
bilinear program: minimizing a bilinear function on a polyhedral set. A
fast finite **k - median** algorithm consisting of solving few **linear**
programs in closed form leads to a stationary point of the bilinear
program. Computational testing on a **number** of real-world databases was
carried out. On the Wisconsin Diagnostic Breast Cancer database, **k -
median** training set correctness was comparable to that of the **k - mean**
algorithm, however its testing set correctness was better. Additionally, on
the Wisconsin Prognostic Breast Cancer database, distinct and clinically
important survival curves were extracted by the **k - median** algorithm,
whereas the **K - mean** algorithm failed to obtain such distinct survival
curves for the same database. (18 Refs)
   Subfile: C
   Descriptors: database management systems; learning (artificial
intelligence); **linear** programming; medical diagnostic computing;
minimisation; neural nets; nonlinear programming; pattern **classification**
   Identifiers: concave minimization; **clustering** ; polyhedral distance;
bilinear programming; **k - median** algorithm; Wisconsin Diagnostic Breast
Cancer database; Wisconsin Prognostic Breast Cancer database; **k - mean**
algorithm; training set; data mining
   Class Codes: C1250 (Pattern recognition); C7330 (Biology and medical
computing); C6160 (Database management systems (DBMS)); C1230D (Neural
nets); C5290 (Neural computing techniques); C1180 (Optimisation
techniques)

   9/5/20   (Item 4 from file: 2)

5181041   INSPEC Abstract Number: B9603-6140C-582, C9603-1250-218
 Title: A self- organizing **network for hyperellipsoidal** clustering **(HEC)**
   Author(s): Jianchang Mao; Jain, A.K.
   Author Affiliation: IBM Almaden Res. Center, San Jose, CA, USA
   Journal: IEEE Transactions on Neural Networks   vol.7, no.1   p.16-29
   Publisher: IEEE,
   Publication Date: Jan. 1996 Country of Publication: USA
   CODEN: ITNNEP ISSN: 1045-9227
   SICI: 1045-9227(199601)7:1L.16:SONH;1-7
   Material Identity Number: N784-96001
   U.S. Copyright Clearance Center Code: 1045-9227/96/$05.00
   Document Number: S1045-9227(96)00180-4
   Language: English   Document Type: Journal Paper (JP)
   Treatment: Theoretical (T)
   Abstract: We propose a self- **organizing** network for hyperellipsoidal
 clustering (HEC). It consists of two layers. The first employs a **number**
of principal component analysis subnetworks to estimate the
hyperellipsoidal shapes of currently formed **clusters** . The second performs
competitive learning using the **cluster** shape information from the first.
The network performs **partitional clustering** using the proposed
regularized Mahalanobis distance, which was designed to deal with the

problems in estimating the Mahalanobis distance when the **number** of patterns in a **cluster** is less than or not considerably larger than the dimensionality of the feature space during **clustering** . This distance also achieves a tradeoff between hyperspherical and hyperellipsoidal **cluster** shapes so as to prevent the HEC network from producing unusually large or small **clusters** . The significance level of the Kolmogorov-Smirnov test on the distribution of the Mahalanobis distances of patterns in a **cluster** to the **cluster** **center** under the Gaussian **cluster** assumption is used as a compactness measure. The HEC network has been tested on a **number** of artificial data sets and real data sets, We also apply the HEC network to texture segmentation problems. Experiments show that the HEC network leads to a significant improvement in the **clustering** results over the **K - means** algorithm with Euclidean distance. Our results on real data sets also indicate that hyperellipsoidal shaped **clusters** are often encountered in practice. (47 Refs)

Subfile: B C

Descriptors: image segmentation; image texture; multilayer perceptrons; pattern recognition; self- **organising** feature maps; unsupervised learning

Identifiers: self- **organizing** network; hyperellipsoidal **clustering** ; principal component analysis subnetworks; **cluster** hyperellipsoidal shape estimation; competitive learning; **partitional** **clustering** ; regularized Mahalanobis distance; hyperspherical **cluster** shapes; Kolmogorov-Smirnov test; Gaussian **cluster** assumption; compactness measure; texture segmentation; **K - means** algorithm; Euclidean distance

Class Codes: B6140C (Optical information, image and video signal processing); C1250 (Pattern recognition); C1230D (Neural nets); C1240 (Adaptive system theory)

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9/5/21   (Item 5 from file: 2)
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4992328   INSPEC Abstract Number: B9508-6130-044, C9508-1250-440
Title: A new method for initializing radial basis function classifiers
Author(s): Kaylani, T.; Dasgupta, S.
Author Affiliation: Dept. of Electr. Eng., Temple Univ., Philadelphia, PA, USA
Conference Title: 1994 IEEE International Conference on Systems, Man, and Cybernetics. Humans, Information and Technology (Cat. No.94CH3571-5)
Part vol. 3   p.2584-7 vol. 3
Publisher: IEEE, New York, NY, USA
Publication Date: 1994 Country of Publication: USA   3 vol. iii+2849 pp.
ISBN: 0 7803 2129 4
U.S. Copyright Clearance Center Code: 0 7803 2129 4/94/$3.00
Conference Title: Proceedings of IEEE International Conference on Systems, Man and Cybernetics
Conference Date: 2-5 Oct. 1994   Conference Location: San Antonio, TX, USA
Language: English   Document Type: Conference Paper (PA)
Treatment: Practical (P); Theoretical (T)
Abstract: Introduces a new approach for the selection of RBF kernel **centers** and their effective widths. RBF **centers** are divided into two sets and are placed strategically to maximize the **classification** capability of RBF networks. The first set is located near class **boundaries** at locations specified by a set of **boundary** -preserving patterns. The second set of RBF **centers** is represented by **cluster** **centers** using the **k - means** **clustering** algorithm. The widths of RBF kernels in both sets are selected so as to minimize the **amount** of overlap between different class regions. The merits of the authors' approach are validated using a speaker-independent vowel recognition problem. (5 Refs)

Subfile: B C

Descriptors: feedforward neural nets; pattern **classification** ; speech recognition

Identifiers: initialization; radial basis function **classifiers** ; kernel **centers** ; **classification** capability; class **boundaries** ; **boundary**

-preserving patterns; k**Means** **clustering** algorithm;
speaker-independent vowel recognition problem
Class Codes: B6130 (Speech analysis and processing techniques); C1250 (
Pattern recognition); C1230D (Neural nets); C5290 (Neural computing
techniques)

9/5/22   (Item 6 from file: 2)

4483794   INSPEC Abstract Number: C9311-1250C-001
**Title: Comparing multi-layer perceptrons and radial basis functions
networks in speaker recognition**
Author(s): Mak, M.W.; Allen, W.G.; Sexton, G.G.
Author Affiliation: Dept. of Electr., Electron. Eng. & Phys., Northumbria
Univ., Newcastle, UK
Abstract: The authors have compared the performance of multi-layer
perceptrons networks (MLP) and radial basis function networks (RBF) in the
task of speaker identification. The experiments are carried out on 400
utterances (10 digits, in English) from 10 speakers. LPC-derived cepstrum
coefficients are used as the speaker specific features. The results show
that the MLP networks are superior in memory usage and **classification**
time. Nevertheless, they suffer from long training time and the
classification performance is poorer than that of the RBF networks. The
function **centres** of the RBF networks are either selected randomly from
the training data or located by a **K - mean** algorithm. The authors find
that **K - mean clustering** is an effective method in locating the
function **centres** . They also find that by guaranteeing every speaker has
similar **number** of function **centres** , the recognition performance can be
improved further. (30 Refs)
Subfile: C
Descriptors: feedforward neural nets; **linear** predictive coding; speech
recognition
Identifiers: multilayer perceptrons; radial basis functions networks;
speaker recognition; speaker identification; LPC-derived cepstrum
coefficients; speaker specific features; memory usage; **classification**
time; **classification** performance; **K - mean** algorithm
Class Codes: C1250C (Speech recognition); C1230D (Neural nets); C1240 (
Adaptive system theory)

9/5/23   (Item 7 from file: 2)

04257863   INSPEC Abstract Number: C9211-1250-148
Title: Polyline approximation of discontinuous contour images based on
clustering **procedure**
Author(s): Watanabe, T.; Suzuki, K.; Tanba, S.; Yokoyama, R.
Author Affiliation: Fac. of Eng., Iwate Univ., Morioka, Japan
Abstract: A new polyline approximation method for discontinuous contour
pictures is proposed. The method is based on a **clustering** procedure and
its **clustering** criterion is defined on **line** segments that correspond to

gravity **centers** of cl⬤ers in the case of the **k** - m⬤s method. Two
clustering types are adopted, which are hard **clustering** and fuzzy
clustering . The suitable **number** of segments can be determined
adaptively and accelerating modifications are also added. The experimental
results demonstrate the validity and the effectiveness of the proposed
method. (8 Refs)
   Subfile: C
   Descriptors: pattern recognition; picture processing
   Identifiers: **centres** of gravity; discontinuous contour images; polyline
approximation method; contour pictures; **clustering** criterion; **line**
segments; **k** - **means** method; hard **clustering** ; fuzzy **clustering** ;
accelerating modifications
   Class Codes: C1250 (Pattern recognition)

   9/5/24   **(Item 8 from file: 2)**
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01503350   INSPEC Abstract Number: B80017995, C80014366
 Title: Hybrid clustering
   Author(s): Hartigan, J.A.; Wong, M.A.
   Author Affiliation: Yale Univ., New Haven, CT, USA
   Conference Title: Proceedings of the Computer Science and Statistics 12th
Annual Symposium on the Interface   p.137-43
   Publisher: Univ. Waterloo, Waterloo, Ont., Canada
   Publication Date: 1979 Country of Publication: Canada   xiii+500 pp.
   Conference Date: 10-11 May 1979   Conference Location: Waterloo, Ont.,
Canada
   Language: English   Document Type: Conference Paper (PA)
   Treatment: Theoretical (T)
   Abstract: High density clusters are defined on a population with density
f to be the maximal connected sets of values x with f(x)>or=c, for various
values of c. A hybrid clustering method is proposed in which points are
first **partitioned** into a moderate **number** of clusters by **k** - **means** ,
and the **centers** of the **clusters** are then **clustered** by single linkage.
This procedure is practicable for very large **numbers** of points, and is
shown to be consistent, under certain regularity conditions, in one
dimension. The procedure is compared empirically with single linkage
(corresponding to nearest neighbour density estimation), and kth nearest
neighbour density estimation. (9 Refs)
   Subfile: B C
   Descriptors: statistical analysis
   Identifiers: population; maximal connected sets; hybrid **clustering** ;
single linkage; kth nearest neighbour; density estimation
   Class Codes: B0240Z (Other and miscellaneous); C1140Z (Other and
miscellaneous)

   9/5/25   **(Item 9 from file: 2)**
DIALOG(R)File 2:INSPEC
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01385410   INSPEC Abstract Number: C79022700
 Title: A new kind of representation in clustering
   Author(s): Diday, E.; Govaert, G.; Lemoine, Y.
   Author Affiliation: Univ. Paris IX-Dauphine, Paris, France
   Conference Title: Proceedings of the 4th International Joint Conference
on Pattern Recognition   p.284-90
   Publisher: Kyoto, Univ, Kyoto, Japan
   Publication Date: 1978 Country of Publication: Japan   xxii+1166 pp.
   Conference Sponsor: Internat. Assoc. Pattern Recognition
   Conference Date: 7-10 Nov. 1978   Conference Location: Kyoto, Japan
   Language: English   Document Type: Conference Paper (PA)
   Treatment: New Developments (N); Theoretical (T)
   Abstract: In the iterative relocation approach (as ISODATA or **k** - **means**
) for finding a **partition** of a set of objects characterized by a finite
number of parameters, each **cluster** is usually represented by its

center of gravity. T⬤ dynamic **clusters** approach g⬤es a formalism
which generalises the notion of **center** to various types of
representation. A new class of problems is presented for which the
representation of a **partition** contain a unique part C that is the same
one for all the classes of the **partition** . This general formulation is
applied in the following three examples: (1) adaptive distance; (2)
adaptive discriminant plane; and (3) determination of a **partition** where
classes have same distribution. (12 Refs)
   Subfile: B C
   Descriptors: pattern recognition; statistical analysis
   Identifiers: **clustering** ; iterative relocation approach; **partition** ;
adaptive distance; adaptive discriminant plane; pattern recognition
   Class Codes: B6140C (Optical information processing); C1140Z (Other and
miscellaneous); C1250 (Pattern recognition)

   9/5/26   (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01400989 ORDER NO: AAD95-07507
AUTOMATED DETECTION OF DELIRIUM
   Author: SOLLER, JEROME BARRY
   Degree: PH.D.
   Year: 1994
   Corporate Source/Institution: THE UNIVERSITY OF UTAH (0240)
   Source: VOLUME 55/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
             PAGE 4472. 205 PAGES
   Descriptors: COMPUTER SCIENCE
   Descriptor Codes: 0984

   This dissertation developed computerized decision support for the
recognition of delirium, a condition resulting in high morbidity and cost.
The decision support required the development of pen-based graphical user
interfaces and client server databases for nursing data and clinical
studies, the execution of clinical studies using those resources, the
integration with the VA's DHCP laboratory package, the creation of
longitudinal queries, and the development of computational models from
queried data.
   Queries to the clinical scale databases and the laboratory results
databases produced structured data, which validated existing clinical
scales and supported the development of statistical models. The statistical
models preprocessed the data by scale reliability analysis, the replacement
of missing data, factor analysis, and **k - means cluster** analysis. The
linear discriminant **classifier** and logistic regression models achieved
high cross-validation **classification** accuracy for delirium detection
given scale data. These methods achieved low cross-validation
classification accuracy for delirium detection given laboratory data,
which is computerized at 171 VA Medical **Centers** nationwide. Multilayer
perceptron, radial basis function, and winner take all artificial neural
networks achieved useful levels of cross-validation **classification**
accuracy given laboratory data.
   This dissertation developed the sinc tensor product network as an
alternative to existing artificial neural network architectures. Kronecker
products of matrix rows calculate the tensor products. Singular value
decomposition solves the resulting weighted least squares optimization
problem. Sinc tensor product network optimization has similar time
complexity to radial basis function network optimization and lower time
complexity than backward error propagation for the multilayer perceptron.
Setting the lower **magnitude** singular values to zero imposed
regularization on the sinc tensor product network. The regularized sinc
tensor product network achieved higher cross-validation **classification**
accuracy than the other artificial neural network architectures.

   9/5/27   (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01315190 ORDER NO: AAD93-29342
LEARNING RATE SCHEDULES FOR STOCHASTIC GRADIENT ALGORITHMS (CONVERGENCE RATES)
  Author: DARKEN, CHRISTIAN J.
  Degree: PH.D.
  Year: 1993
  Corporate Source/Institution: YALE UNIVERSITY (0265)
  Adviser: JOHN E. MOODY
  Source: VOLUME 54/06-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
           PAGE 3250. 133 PAGES
  Descriptors: ENGINEERING, ELECTRONICS AND ELECTRICAL; STATISTICS;
                ENGINEERING, SYSTEM SCIENCE
  Descriptor Codes: 0544; 0463; 0790

     Stochastic gradient descent is an important class of stochastic
processes which is relevant to learning as studied in engineering and
biology. LMS adaptive filtering, online backpropagation, and forms of **k -
means clustering** (vector quantization), all important signal processing
algorithms, are stochastic gradient descent processes. Stochastic gradient
processes can often be viewed as online optimization algorithms. The
advantage of these algorithms is that the update complexity is typically
linear in the **number** of system parameters as compared to quadratic or
worse for variants of Newton's method. Thus there continues to be great
interest in using stochastic gradient algorithms to solve the large least
squares problems which are ubiquitous in engineering. Each algorithm takes
steps down the gradient of some loss function. The step **size** is
controlled by an adjustable sequence of gains (or "learning rate
schedule"). How to choose this sequence in order to quickly find a good
local minimum of the loss is the **central** problem studied in this work.
     We present a new deterministic schedule which has improved chances of
escaping from local minima but which is still capable of achieving fast
convergence asymptotically. These schedules keep the learning rate constant
at small times (the "search" phase), and reduce the rate like c/t
asymptotically (the "converge" phase). This schedule performs much better
than the standard choice for **k - means clustering** .
     We propose a new adaptive learning rate schedule, based on our
extensions to stochastic approximation theory, which tunes c on **line** . Our
starting point is the classical result that in order to converge to a
minimum as quickly as possible, the learning rate must go asymptotically as
c/t, where c is greater than some task-dependent threshold. We develop a
specific, computationally inexpensive method for determining whether a
particular c is large enough and prove that it works. Additionally,
experimental results on signal processing tasks are presented for both new
schedules.

 9/5/28   (Item 3 from file: 35)
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01090434 ORDER NO: AAD90-05153
ON LIMIT THEOREMS OF THE FUZZY C-MEANS CLUSTERING **PROCEDURE**
  Author: YANG, MIINSHEN
  Degree: PH.D.
  Year: 1989
  Corporate Source/Institution: UNIVERSITY OF SOUTH CAROLINA (0202)
  MAJOR PROFESSOR: KAI FUN YU
  Source: VOLUME 50/09-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
           PAGE 4045. 58 PAGES
  Descriptors: MATHEMATICS; COMPUTER SCIENCE
  Descriptor Codes: 0405; 0984

     The fuzzy c-means (FCM) **clustering** procedure is usually used to
cluster a finite data set. The FCM **clustering** is one type of
generalization of the classical **k - means clustering** . We study the
asymptotic behavior of the FCM **clustering** in this thesis. One is the
strong consistency of the FCM. The other is the **central   limit** theorem

for the FCM.

A vector a = $\rm (a\sb1, \..., a\sb{c})$ of $\rm (R\sp{S})\sp{c}$ with c components, $\rm a\sb1, \..., a\sb{c}$, in the s-dimensional Euclidean space R$\sp{\rm S}$ induces a fuzzy c- **partition** of subsets of R$\sp{\rm S}$ by the membership functions $\rm \mu\sb{i} (x,{\it a}) = (\sum\sbsp {j = 1}{c} \Vert x - a\sb{i} \Vert\sp{2/(m-1)} / \Vert x - a\sb{j} \Vert\sp{2/(m - 1)}) \sp{-1}$ for i = 1, ...,c where m is a constant bigger than one. Let P be a probability distribution on R$\sp{\rm S}$ and let a* be a minimizer of $\rm (\int(\sum\sbsp {j = 1}{c} \Vert x - a \Vert \sp{-2/(m - 1)})\sp{1 - m} P(dx))$ over all elements of $\rm (R\sp{S})\sp{c}$. Let $a\sb{\rm n}$ be the sample analogue for a simple random sample of **size** n from P. For any fixed constant m $>$ 1, it is established that $a\sb{\rm n}$ converges to a* with probability one as n tends to infinity. Consequently the fuzzy c- **partition** induced by $a\sb{\rm n}$ will also converge with probability one to that induced by a*. The operator T on the space of sets with c elements defined by $\rm\{\int x\mu\sbsp {i}{m} (x,{\it a}) P(dx){/}\int\mu\sbsp {i}{m} (x,{\it a}) P(dx);\ i = 1,\...,c\}$ is shown to have a fixed point a*, i.e. Ta* = a* under appropriate conditions. The iterative procedure derived from this relationship is the FCM **clustering** algorithm with respect to P. Finally we will establish the asymptotic normality of the normalized sample **cluster center** $\rm n\sp{1/2} ({\it a}\sb{n} -{\it a}\sp{*})$. That is, $\rm n\sp{1/2} ({\it a}\sb{n} -{\it a}\sp{*}) \to N({\it O},H\sp{-1}\Sigma\ H\sp{-1})$ in distribution as $\rm n \to \infty$, where H and Σ are the special matrices as defined in this thesis.

9/5/29   (Item 4 from file: 35)
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0968126 ORDER NO: AAD87-24314
TRAVELING LIGHT: LITHIC INFERENCE, SITE STRUCTURE AND HUNTER-GATHERER MOBILITY STRATEGIES AT GATECLIFF SHELTER, NEVADA
  Author: NOVICK, ANDREA LEE
  Degree: PH.D
  Year: 1987
  Corporate Source/Institution: WASHINGTON STATE UNIVERSITY (0251)
  Source: VOLUME 48/08-A OF DISSERTATION ABSTRACTS INTERNATIONAL.
           PAGE 2092. 373 PAGES
  Descriptors: ANTHROPOLOGY, ARCHAEOLOGY
  Descriptor Codes: 0324

Flaked stone tools and debitage from the excavation of Gatecliff Shelter, Nevada, a stratified rockshelter with a consistent suite of radiocarbon dates, are used to examine hunter-gatherer mobility/ **organizational** strategies and site structure. Current models of hunter-gatherer mobility strategies are based on the ethnographic literature, and ethnoarchaeological and archaeological research. It is anticipated that in the study area expedient tools (unifaces, flake tools) characterize assemblages representing residential mobility, while curated tools (bifacial cores, bifaces, projectile points) characterize assemblages representing logistical mobility.

Qualitative and **quantitative** models have been developed to examine rockshelter site structure. These are tested by analysis of debitage and tools, within Gatecliff Shelter relative to features and **boundaries** , using SYMAP computer mapping, refitting tools and debitage, regression analysis, the **k - means** procedure, and simulation.

The results of the analysis of flaked stone tools and debitage and study of their distributions provide four conclusions. First, little post-distributions--small artifacts and the by-products of tool use are discarded adjacent to hearths while large artifacts are generally deposited away from such activity **centers** --support the spatial models. However, not all tools are significantly associated with features. This evidence is interpreted as spatially overlapping discard and hearth use resulting from mulitple occupations.

Third, lithic technology does not change through time at Gatecliff Shelter (as illustrated by continued production of projectile points from

flake blanks, and homogen⬤y of debitage and platform cla⬤s). Fourth, the debitage and tools of distinctive lithic materials exhibit deversity identified as "profiles." These profiles serve as heuristic devices that indicate the debitage and tools represent curated assemblages characteristic of activities associated with logistical strategies. Because Gatecliff Shelter functioned in a similar role through time, the diachronic homogeneity of the lithic assemblages reflects the constant structure of the site within a **number** of different mobility strategies through time.

9/5/30   (Item 5 from file: 35)
DIALOG(R)File   35:Dissertation Abs Online
(c) 2002 ProQuest Info&Learning. All rts. reserv.

906455   ORDER NO: AAD86-01157
A STUDY OF ALGORITHMS FOR THE   K - MEDIAN   **PROBLEM AND THE VEHICLE ROUTING PROBLEM**
   Author: AHN, SANG-HYUNG
   Degree: PH.D.
   Year: 1985
   Corporate Source/Institution: CARNEGIE-MELLON UNIVERSITY (0041)
   Source: VOLUME 46/12-A OF DISSERTATION ABSTRACTS INTERNATIONAL.
             PAGE 3772. 123 PAGES
   Descriptors: BUSINESS ADMINISTRATION, GENERAL
   Descriptor Codes: 0310

      The distribution problem can occur directly in routing problems such as the transportation problem, the travelling salesman problem and the vehicle routing problem, or indirectly in location problems such as the **k - median** , the simple plant location, and the capacitated plant location problem.
         In this thesis we investigate two topics related to distribution management, namely the **k - median** problem and the vehicle routing problem. These two problems share the following two important properties: first, both problems, when formulated as mathematical programming problems, have common subsets of constraints, second, the decision variables, can be divided into two kinds of variables, strategic or tactical variables.
         The **k - median** problem has been widely studied both from the theoretical point of view and for its application. An interesting theoretical development was the successful probabilistic analysis of several heuristics for the **k - median** problem. On the other hand, the literature on the **k - median** problem abounds in exact algorithms. Most are based on the solution of the strong **linear** programming relaxation. The computational experience reported in the literature seems to indicate that this particular relaxation yields impressively tight bounds compared to what can usually be expected in integer programming. In this thesis we analyse to what extent this relaxation is tight. We perform our analysis under various probabilistic assumptions and identify conditions under which the relaxation can be expected to be tight and others under which it can be expected to give a poor bound.
         Besides the probabilistic analysis, we provide polyhedral and structural analysis of the **k - median** problem. We investigate the properties of the polytope defined by the strong **linear** programming relaxation constraints. We present several trees where the **linear** programming relaxation always has a fractional optimal solution and the relative gap, $(Z(,IP) - Z(,LP))/Z(,IP)$ converges to 1/2 as n goes to (INFIN).
         In addition to the theoretical analysis, we also report extensive computational experiments, based on the solutions of thousands of medium- **size** problems.
         We consider a variant of the vehicle routing problem where a restriction on the length of each tour travelled by each vehicle plays a dominant role. As a result, our formulation significantly deviates from the conventional ones. We propose an algorithm based on a decomposition method. The algorithm alternates between solving a master problem to **cluster** customers and solving the traveling salesman problems to determine the actual vehicle routes through the customers and **central** depot. We also report computational experience. (Abstract shortened with permission of

author.)

04533486   E.I. No: EIP96103368518
   Title: Channel equalization using radial basis function network
   Author: Lee, Jungsik; Beach, Charles D.; Tepedelenlioglu, Nazif
   Corporate Source: Florida Inst of Technology, Melbourne, FL, USA
   Conference Title: Proceedings of the 1996 IEEE International Conference
on Acoustics, Speech, and Signal Processing, ICASSP. Part 3 (of 6)
   Conference   Location: Atlanta,   GA,   USA   Conference   Date:
19960507-19960510
   Sponsor: IEEE
   E.I. Conference No.: 45447
   Source: ICASSP, IEEE International Conference on Acoustics, Speech and
Signal   Processing   -   Proceedings v 3 1996. IEEE, Piscataway, NJ,
USA,96CB35903. p 1719-1722
   Publication Year: 1996
   CODEN: IPRODJ   ISSN: 0736-7791
   Language: English
   Document Type: CA; (Conference Article)   Treatment: T; (Theoretical)
   Journal Announcement: 9612W3
   Abstract: In this paper, we discuss the application of a radial basis
function (RBF) network to the channel equalization problem. In particular,
the purpose of the paper is to improve the previously developed RBF
equalizer with training using **K - means** and LMS methods; reducing the RBF
network **size** by considering a lesser **number** of RBF **centers** , and
developing new techniques for determining channel order which is required
to specify the structure of an RBF equalizer. A **linear** regression model
was used for estimating the channel order. The basic idea of reducing the
network **size** is to select the **centers** , based on the channel lag. This
work includes the comparison of the **limits** of mean square error (MSE)
convergence of both a **linear** equalizer and an RBF equalizer. (Author
abstract) 9 Refs.
   Descriptors: *Neural networks; Communication channels (information
theory); Equalizers; Mathematical models; Regression analysis; Functions;
Parameter estimation; Convergence of numerical methods; Correlation methods
; Learning algorithms
   Identifiers: Channel equalization; Radial basis function network;
Autocorrelation techniques; **K   means   clustering** algorithm; Channel
order estimation
   Classification Codes:
   723.4 (Artificial Intelligence); 716.1 (Information & Communication
Theory); 713.5 (Other Electronic Circuits); 922.2 (Mathematical
Statistics); 731.1 (Control Systems)
   723 (Computer Software); 716 (Radar, Radio & TV Electronic Equipment);
713 (Electronic Circuits); 921 (Applied Mathematics); 922 (Statistical
Methods); 731 (Automatic Control Principles)
   72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS); 92
 (ENGINEERING MATHEMATICS); 73 (CONTROL ENGINEERING)

```
Set     Items     Description

S1       1338      KMEAN? OR K()MEAN? ?
S2       9694569   CENTROID? OR CENTER? OR CENTRAL? OR MEDIAN? OR MIDPOINT? OR
                   MID()POINT? OR MIDDLE?
S3       1452842   CLUSTER? OR MATRIX? OR PARTITION? OR DATA()POINT? OR BOUND-
                   AR?
S4       2518053   PARALLEL()PROCESS? OR CONCUR? OR CO()OCCUR? OR COOCCUR? OR
                   SIMULTAN? OR SAME()TIME?
S5       8709825   MOVE? OR REALIGN? OR REASSIGN? OR REDESIGNAT? OR MOVING OR
                   UPDAT? OR UP()(DATE? OR DATING?)
S6       357       S1 AND S4
S7       44        S2(5N)S5 (10N) S3 (10N) S4
S8       1         S2(5N)S5(10N)S3(S)S4(S)(ALGORITHM? OR FORMULA? OR STATISTI-
                   CAL()(METHOD? OR TECHNIQ?) OR CALCULAT?)
S9       66882     (CLUSTER? OR GROUP? OR DATAPOINT? OR DATA()POINT? OR BOUND-
                   AR?)(2N)S5
S10      3         S1(S)S4 AND S9
S11      2         S1(5N)S4
S12      50        S7 OR S8 OR S10 OR S11
S13      36        RD (unique items)
S14      30        S13 NOT PY>2000
S15      29        S14 NOT PD>20001004
File 275:Gale Group Computer DB(TM) 1983-2003/Feb 26
         (c) 2003 The Gale Group
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         (c) 2003 The Gale group
File 636:Gale Group Newsletter DB(TM) 1987-2003/Feb 26
         (c) 2003 The Gale Group
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         (c) 2003 McGraw-Hill Co. Inc
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         (c) 2003 ProQuest
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         (c) 2003 PR Newswire Association Inc
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         (c) 1999 PR Newswire Association Inc
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         (c) 2003 The HW Wilson Co
File 239:Mathsci 1940-2003/Apr
         (c) 2003 American Mathematical Society
File 370:Science 1996-1999/Jul W3
         (c) 1999 AAAS
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         (c) 2003 The Dialog Corp.
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         (c) 2003 The Gale Group
File 674:Computer News Fulltext 1989-2003/Feb W4
         (c) 2003 IDG Communications
File  88:Gale Group Business A.R.T.S. 1976-2003/Feb 25
         (c) 2003 The Gale Group
File 369:New Scientist 1994-2003/Feb W3
         (c) 2003 Reed Business Information Ltd.
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 635:Business Dateline(R) 1985-2003/Feb 26
         (c) 2003 ProQuest Info&Learning
File  15:ABI/Inform(R) 1971-2003/Feb 26
         (c) 2003 ProQuest Info&Learning
File   9:Business & Industry(R) Jul/1994-2003/Feb 26
         (c) 2003 Resp. DB Svcs.
File  13:BAMP 2003/Jan W2
         (c) 2003 Resp. DB Svcs.
File 810:Business Wire 1986-1999/Feb 28
         (c) 1999 Business Wire
File 610:Business Wire 1999-2003/Feb 27
         (c) 2003 Business Wire.
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File 647:CMP  Computer Full text 1988-2003/Feb W2
        (c) 2003 CMP Media, LLC
File  98:General Sci Abs/Full-Text 1984-2003/Jan
        (c) 2003 The HW Wilson Co.
File 148:Gale Group Trade & Industry DB 1976-2003/Feb 25
        (c)2003 The Gale Group
```

15/3,K/1   (Item 1 from file: 47)
DIALOG(R)File 47:Gale Group Magazine DB(TM)
(c) 2003 The Gale group. All rts. reserv.

05229824   SUPPLIER NUMBER: 21147887   (USE FORMAT 7 OR 9 FOR FULL TEXT)
Centerpiece of attention. (flower arrangement)
Martin, Tovah
Horticulture, The Art of American Gardening, v95, n8, p38(6)
Sept-Oct, 1998
LANGUAGE: English   RECORD TYPE: Fulltext; Abstract
WORD COUNT: 2525   LINE COUNT: 00196

...   is low, she starts with the heaviest elements: grapes and
hydrangeas.
     The anchor established, she **moves** on to the upper extremities of the
composition "because we need to know the **boundaries** of the arrangement."
     Integration is achieved by working on all parts of the bouquet
simultaneously , and so Runkle begins staging the **central** focal point
while the top still remains unfinished.
     Fillers such as Chinese forget-me-not...

 15/3,K/2   (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2003 The Gale Group. All rts. reserv.

02045744   Supplier Number: 43726468 (USE FORMAT 7 FOR FULLTEXT)
DATABASE: NEW IBM VERSION OF DB2 DATABASE FEATURING ENHANCED PERFORMANCE &
 DATA AVAILABILITY
EDGE: Work-Group Computing Report, v4, n148, pN/A
March 22, 1993
Language: English   Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 885

...   without locking other partitions.
     Independent partitions also enable maintenance to be performed on a
single **partition** , instead of an entire table or index space. Large
single-utility jobs can be divided into smaller ones and processed
concurrently . And, different utilities can be run on different **partitions**
 simultaneously , without disrupting each other.
     DB2 Version 3 also exploits the Asynchronous Data **Mover** Facility of
IBM's new Enterprise System/9000 (ES/9000) processors by more efficiently
moving large amounts of data between **central** and expanded storage, thus
freeing up more processor resource for customer workloads.
     With this facility...

 15/3,K/3   (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2003 The Gale Group. All rts. reserv.

04105570   Supplier Number: 45986977 (USE FORMAT 7 FOR FULLTEXT)
NASA'S GODDARD SPACE FLIGHT CENTER TRIPLES ITS SUPERCOMPUTING POWER WITH
 CLUSTER OF CRAY SUPERCOMPUTERS
PR Newswire, p1204MNM011
Dec 4, 1995
Language: English   Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 571

     (USE FORMAT 7 FOR FULLTEXT)
TEXT:
...that it has received an order for multiple CRAY J932(TM) supercomputers
from the NASA **Center** for Computational Sciences. The systems were
selected by NCCS to **move** its production computing from a predominately
single processor environment to a **parallel** **processing** **center** . The
CRAY J932 systems, each scalable up to 32 processors, will be **clustered**

to provide a tightly inte●ated distributed memory enviror●t to tackle
even larger computational workloads. Cray...

15/3,K/4   (Item 2 from file: 16)

03733110   Supplier Number: 45294507   (USE FORMAT 7 FOR FULLTEXT)
FelPro Inc.
Automotive News, v0, n0, p36
Jan 30, 1995
Language: English   Record Type: Fulltext
Document Type: Magazine/Journal; Tabloid; Trade
Word Count: 189

...   specific clients, with responsibility to prioritize shipping and
guide products through the factory. At the **same   time** , FelPro's Skokie,
Ill., production **center** is **moving** to cellular manufacturing to improve
efficiency.
     By **clustering** machinery together to produce certain families of
gaskets, the company is eliminating much of the...

15/3,K/5   (Item 3 from file: 16)

02335959   Supplier Number: 43061842   (USE FORMAT 7 FOR FULLTEXT)
Peasant takes casual Mick's to Midwest, eyes other sites
Nation's Restaurant News, v0, n0, p3
June 8, 1992
Language: English   Record Type: Fulltext
Document Type: Magazine/Journal; Tabloid; Trade
Word Count: 385

...   will open a 350-seat version of the casual concept next week in
downtown City **Center** .
     In its first **move** outside of Atlanta, Peasant intends to **cluster**
at least six Mick's units each in Minneapolis and Chicago, according to
co-founder and president Stephan Nygren.
     Simultaneously , Peasant's management is scouting several Mick's
locations in Washington, D.C., where it...

15/3,K/6   (Item 1 from file: 484)

03663700   (USE FORMAT 7 OR 9 FOR FULLTEXT)
On proportions
Wolpe, Stefan; Greenbaum, Matthew
Perspectives of New Music (PPNM), v34 n2, p132-184, p.53
 Summer 1996
 ISSN: 0031-6016   JOURNAL CODE: PPNM
 DOCUMENT TYPE: Feature
 LANGUAGE: English   RECORD TYPE: Fulltext; Abstract
WORD COUNT: 8023

TEXT:
...   Captioned as: EXAMPLE 16
     (Chart Omitted)
     Captioned as: Example 17
     In the extreme layering of **simultaneous** asymmetries for which the
cluster , the swarm, the crowd, and the entanglement are typical perceptual
forms-even there-their suspended **center** originates, since in general
almost the same thing is happening at the **same   time** . **Movements** are
begun, are simultaneously dropped, are again restored, are multiplied,

simultaneously interlaced are welded together...

15/3,K/7   (Item 2 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext
(c) 2003 ProQuest. All rts. reserv.

02982147   (USE FORMAT 7 OR 9 FOR FULLTEXT)
Empowering middle managers to be transformational leaders
Spreitzer, Gretchen M; Quinn, Robert E
Journal of Applied Behavioral Science (JBS), v32 n3, p237-261, p.25
 Sep 1996
 ISSN: 0021-8863   JOURNAL CODE: JBS
 DOCUMENT TYPE: Feature
 LANGUAGE: English   RECORD TYPE: Fulltext; Abstract
WORD COUNT: 10224

TEXT:
...   and strategic direction were designed to create a sense of urgency
about the need for **middle** managerial change. In addition to the strategic
changes described above, cultural changes were being driven by the
organization's newly developed Mission, Values, and Guiding Principles.
     At the **same   time** , the organization was loosening its traditional
functional structure through use of colocated, cross-functional teams and
an eventual **move** to a **matrix** structure. At Ford, functions had
traditionally been viewed as chimneys, acting as walls, keeping managers...

15/3,K/8   (Item 3 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext
(c) 2003 ProQuest. All rts. reserv.

02767638   (USE FORMAT 7 OR 9 FOR FULLTEXT)
**What is deconstruction, and where and when does it take place? Making
   facts in science, building cases in law--Comment/reply**
Fuchs, Stephan; Ward, Steven; Agger, Ben
American Sociological Review (GASR), v59 n4, p481-510
 Aug 1994
 ISSN: 0003-1224   JOURNAL CODE: GASR
 DOCUMENT TYPE: Feature
 LANGUAGE: English   RECORD TYPE: Fulltext; Abstract
WORD COUNT: 18641   LENGTH: Long (31+ col inches)

TEXT:
...   not even register that something was going on. The leading texts
and documents attract and **cluster** many citations and co-citations. They
come to define the **movement** 's intellectual agenda. Commentaries on these
texts appear, and eventually textbooks as well.
     At the **same   time** , organizational and educational **centers** emerge.
They produce master-apprentice ties that extend the relevant networks
across time and space...

15/3,K/9   (Item 1 from file: 813)
DIALOG(R)File 813:PR Newswire
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0713849   PG002
**BREAKTHROUGH AWARD HONORS HEART MODELING BY NYU SCIENTISTS AT PITTSBURGH
     SUPERCOMPUTING CENTER**

DATE: June 10, 1994   10:53 EDT   WORD COUNT: 510

...approach to deal with
the problem of modeling fluid flows interacting with a flexible, elastic
 boundary such as the muscle fibers of the heart. Because this is a
"coupled system" -- the elastic **boundary** **moves** the fluid at the **same
 time** as the fluid pushes back against it -- the standard techniques of

computational fluid dyna●s are inadequate. Through wor●ps at the
Pittsburgh Supercomputing **Center** and through scientific literature, the
immersed **boundary** method has become a prevalent tool in computational
research and has been applied to modeling...

15/3,K/10   **(Item 1 from file: 239)**
DIALOG(R)File 239:Mathsci

01661048 MR 82c#80007
Combined ADI iteration and implicit central difference numerical method
for solving nonlinear conjugated partial differential equations with moving
boundary hea.
Advances in computer methods for partial differential equations, III
(Proc. Third IMACS Internat. Sympos., Lehigh Univ., Bethlehem, Pa., 1979)
Fong, Fred Ku
Skidmore, Duane R.
1979,
IMACS, New Brunswick, N.J.,;   pp. 120--126,,
Language: English
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: SHORT (8 lines)
Reviewer: Authors' summary

Authors' summary: ''A new numerical method, the method of
alternating variables, is devised to solve **simultaneously** three
conjugated equations with a **moving** **boundary** . This method combines the
ADI iteration method for the parabolic equation and the implicit **central**
 difference method for the hyperbolic equation by solving for alternate
variables at successive time intervals...

15/3,K/11   **(Item 2 from file: 239)**
DIALOG(R)File 239:Mathsci

01654087 MR 82a#65005
Advances in computer methods for partial differential equations. III.
  Proceedings of the Third IMACS International Symposium on Computer
Methods for Partial Differential Equations held at Lehigh University,
Bethlehem, Pa., June 20--22, 1979. Edited by R. Vichnevetsky and R. S.
Stepleman.
Contributors: Vichnevetsky, R.; Stepleman, R. S.
Publ: International Association for Mathematics and Computers in
Simulation (IMACS), New Brunswick, N.J.,
1979, vii+442 pp.
Language: English
Advances in computer methods for partial differential equations,; IMACS
Symposium: Computer Methods for Partial Differential Equations,; Computer
methods; Partial differential equations; Bethlehem, Pa.,   3 3rd
International 1979
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: LONG (189 lines)
Reviewer: Editors

...O. Blackketter, M. S. Henry and E. R. Garner, A new iterative method
for solving **simultaneous** linear equations (pp. 70 - 72); E. Adams and W.
F.   Ames, Contracting interval iteration for...

...moving boundary (abstract) (p.   118); B. E. McDonald, S. T. Zalesak and
J. G. Lyon, **Algorithms** for multidimensional transport (abstract) (p.
119); Fred Ku Fong and Duane R. Skidmore, Combined ADI iteration and
implicit **central** difference numerical method for solving nonlinear
conjugated partial differential equations with **moving** **boundary** heat
transfer in in situ coal liquefaction (pp. 120 - 126); Alvin Bayliss and
Eli Turkel...

...Daniel B. Szyld and O. B. Widlund, Applications of conjugate gradient type methods to eigenvalue **calculations** (pp. 167 - 173); Heinz Kossmann, Finite-difference approximations for nonlinear hyperbolic partial differential equations with time periodic solutions (pp. 174 - 178); D. M. Kuzo and S. H. Johnson, **Calculated** global conditions for the unsteady Euler flow equations (pp. 179 - 184); B. H. McDonald, A...

...difference solution of a Stefan problem (pp. 196 - 200); George A. Keramidas, A finite element **formulation** for the nonlinear heat conduction (pp. 201 - 204); Aspi Rustom Wadia and Fred R. Payne...lining of an electric chamber furnace (pp. 409 - 415); D. L. Hicks, Vector and parallel **algorithms** for multidimensional Lagrangean wavecodes (abstract) (p. 416); Robert L. McCrory and Steven A. Orszag, Spectral...

...variables (abstract) (p. 435); Paul O. Frederickson and W. Roy Wessel, A fast semi-implicit **algorithm** for problems of mixed type (pp. 436 - 438); Gerard R. Richter, Numerical identification of a...

15/3,K/12   **(Item 3 from file: 239)**
DIALOG(R)File 239:Mathsci
(c) 2003 American Mathematical Society. All rts. reserv.

01426289 MR 54##14215
Bayes-Stein estimators for $ k $- means , regression and simultaneous **equation models.**
Studies in Bayesian econometrics and statistics (in honor of Leonard J. Savage)
Zellner, Arnold
Vandaele, Walter
1975,
North-Holland, Amsterdam,; pp. 627--653. Contributions to Economic Analysis, No. 86,,
Language: English
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: LONG (33 lines)
Reviewer: Leonard, Tom

Bayes-Stein estimators for $ k $- means , regression and simultaneous **equation models.**

15/3,K/13   **(Item 4 from file: 239)**
DIALOG(R)File 239:Mathsci
(c) 2003 American Mathematical Society. All rts. reserv.

01408074 MR 53##11818
Studies in Bayesian econometrics and statistics.
In honor of Leonard J. Savage. Edited by Stephen E. Fienberg and Arnold Zellner. Contributions to Economic Analysis, No. 86.
Contributors: Savage, Leonard J.; Fienberg, Stephen E.; Zellner, Arnold
Publ: North-Holland Publishing Co., Amsterdam-Oxford; American Elsevier Publishing Co., Inc., New York,
1975, ix+676 pp. (errata insert)
Language: English
Studies in Bayesian econometrics and statistics; Bayesian econometrics; Statistics; Collection: Savage, Leonard Jimmie
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: LONG (89 lines)
Reviewer: Editors

...52\#2013] (pp. 619--626); Arnold Zellner and Walter Van-daele, Bayes-Stein estimators for $ k $- **means** , regression and **simultaneous** equation models (pp. 627--653); Appendix: Program of the First NBER-NSF Seminar on Bayesian...

15/3,K/14   **(Item 1 from file: 621)**

01058681   Supplier Number: 40228412 (USE FORMAT 7 FOR FULLTEXT)
**WANG INTRODUCES VIRTUAL MACHINE OPERATING SYSTEM FOR VS COMPUTERS ; TARGETS
 MIS OPERATIONS WITH MULTIPLE OPERATING SYSTEMS CAPABILITY**
News Release, p1
Dec 1, 1987
Language: English   Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 467

...   machines are task independent; all can be dedicated to
    different applications running on the same **central** processor. In
    vertical applications, such as service bureau timesharing, VS/VM
    conserves costs and improves throughput and availability by running
    different client applications **simultaneously** on the same computer.
    The multiple environments can be controlled from a single
    workstation. Operators can **move** between the **partitioned**
 applications
    with a single keystroke.

    VS/VM also enforces security between operating systems. Operators
    can...

 15/3,K/15   (Item 2 from file: 621)

01016814   Supplier Number: 39644750 (USE FORMAT 7 FOR FULLTEXT)
**INFORMATION BUILDERS, INC. ANNOUNCES FIRST PRODUCTION RELEASE OF FOCUS
 4GL/DBMS FOR DEC VAX ENVIRONMENT**
PR Newswire, pN/A
Dec 6, 1985
Language: English   Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 672

...
modeling and spreadsheet. Files participating in the JOIN may be on
    the same standalone CPU, **clustered**
 CPUs or on geographically separate
    CPUs coupled through DECnet.

    SIMULTANEOUS   UPDATE (SU) - FOCUS for VAX will now allow for
    concurrent   updating of the same FOCUS database by up to 256
    simultaneous users. The SU facility operates with a single copy of
    FOCUS acting as a **central** or "sync" machine into which transaction
    streams for multiple users are directed. A straightforward
    "change...

 15/3,K/16   (Item 1 from file: 88)

05331110   SUPPLIER NUMBER: 59599080
The Imagined Modern Nation in Yusuf Idris's Al-farafir.(Critical Essay)
Ouyang, Wen-chin
Modern Language Quarterly, 60, 3, 379
Sept, 1999
DOCUMENT TYPE: Critical Essay   ISSN: 0026-7929   LANGUAGE: English
RECORD TYPE: Fulltext
WORD COUNT: 13462   LINE COUNT: 01076

...   to the benefit of modernity. Finally, the pairing of global and
local betrays the impulse **simultaneously** to participate in shaping world

civilization and maintain unique characteristics or concomitantly to **move** toward the **center** while retaining the privileges of the margin. The **boundaries** of these paradoxes are, however, collapsed; the clusteri ng of the adjectives reveals that legitimacy...

 15/3,K/17 (Item 1 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
(c) 1999 The Gale Group. All rts. reserv.

01642197
science/scope: An Advanced Medium-Range Air-to-Air Missile.
JOURNAL OF ELECTRONIC DEFENSE   June, 1987   p. 391

    ... 1,000 feet above sea level. Following launch, AMRAAM guided itself using data link target **updates** . In the terminal phase of the flight, AMRAAM's active radar **simultaneously** locked on and tracked each of the drones. The radar successfully differentiated between the two **clustered** targets and hit one rather than selecting a **central** point between them. AMRAAM is in full-scale development for the US Air Force and...

 15/3,K/18 (Item 1 from file: 635)
DIALOG(R)File 635:Business Dateline(R)
(c) 2003 ProQuest Info&Learning. All rts. reserv.

0727122 96-85625
Empty apartments a vanishing species
Church, Foster
Oregonian (Portland, OR, US) pA1
PUBL DATE: 960705
WORD COUNT: 1,070
DATELINE: Portland, OR, US, Pacific

TEXT:

    ...housing market in several ways. Many of them buy houses, which drives up prices. The **median** price of a house in Portland has increased 50 percent since 1991. This in turn creates demand for apartments because fewer people can afford to buy homes. At the **same** **time** , many of the newcomers, even if they buy, will rent temporarily.

    * As people **move** to the Portland area, the region's urban growth **boundary** -- a ring around the region that restricts residential development -- has limited the land available for...

 15/3,K/19 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2003 ProQuest Info&Learning. All rts. reserv.

01110132 97-59526
Alliance takes aim at clustered servers
Damore, Kelley; Willett, Shawn
Computer Reseller News n653 PP: 1, 230 Oct 16, 1995
ISSN: 0893-8377 JRNL CODE: CRN
WORD COUNT: 638

...TEXT: due out in 1997.

THE NEXT WAVE

Rollout plans:

* First phase to include two-server **cluster** , failover.

* Next phase targets scalability.

In Concert:

* Systems vendors, included Digital, to develop **middleware** for **clustered** PC servers.
* Applications written to specs to **simultaneously** run on multiple PCs.

* Basic **clustering** to show up in Compaq, HP servers next year.

* **Move** will help put Windows NT on par with Unix for scalability.

15/3,K/20   (Item 2 from file: 15)
DIALOG(R)File   15:ABI/Inform(R)

00882760 95-32152
Dealing with big-time change
Kimmel, Peter S; Vanderburgh, Lawrence W
Facilities Design & Management v13n6 PP: 52-55 Jun 1994
ISSN: 0279-4438 JRNL CODE: FDM
WORD COUNT: 2599

...TEXT: possible and were otherwise left at the local sites, to keep day-to-day work **moving** . **Matrix** management was implemented. FMs reported to line management at local sites and at the **same** **time** reported to the facilities chief at headquarters.

The bank that previously had one **central** headquarters now had a corporate headquarters and multiple regional **centers** . Each local FM department had detailed knowledge of its markets and good rapport with local...

15/3,K/21   (Item 3 from file: 15)
DIALOG(R)File   15:ABI/Inform(R)

00827807 94-77199
Organizing for Europe
Anonymous
International Journal of Retail & Distribution Management Retail Insights Supplement PP: xv-xvi Winter 1993
ISSN: 0959-0552 JRNL CODE: RDM
WORD COUNT: 1006

...TEXT: European countries are more similar than different.

As a result, the launching of brands or **moving** of brands from one country to another is happening with much greater frequency, with **simultaneous** launches for successful brands occurring quickly.

All this requires a major change in organizations. It also sees brand management **moving** up the company hierarchy, a **move** to a **matrix** organization with international brand structures as important as geographic-based structures, and a shift toward **centralization** .

The effects of these changes on brand communications are a general harmonization on packaging, pricing...

15/3,K/22   (Item 4 from file: 15)
DIALOG(R)File   15:ABI/Inform(R)

00232216 84-10777
The Life Cycle of the Organization - Part 1
Meyer, Bill T.; Merrell, David W.
Journal of Commercial Bank Lending v66n5 PP: 19-37 Jan 1984
ISSN: 0021-986X JRNL CODE: CBL

...ABSTRACT: management problems, the firm moves to a personal management style characterized by high degrees of **centralization** , strong employee loyalty, and emerging skills specialization. As the organization becomes more decentralized, a professional management style emerges, characterized by performance/reward employee contracts and growing divisionalization, signalling a **move** to bureaucratic management with rigid rules and procedures. Later, the mature firm develops a **matrix** management style, allowing **simultaneous** **centralization** and decentralization. ...

15/3,K/23 **(Item 1 from file: 9)**
DIALOG(R)File 9:Business & Industry(R)
(c) 2003 Resp. DB Svcs. All rts. reserv.

01309440 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Alliance takes aim at clustered servers
(Microsoft is working with at least 4 hardware vendors to bring clustering of servers to Windows NT as early as 1996)
Computer Reseller News, n 653, p 1+
October 16, 1995
DOCUMENT TYPE: Journal ISSN: 0893-8377 (United States)
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 638

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:
...due out in 1997.

The Next Wave

Rollout plans:

First phase to include two-server **cluster** , failover.
Next phase targets scalability.

In Concert:

Systems vendors, including Digital, to develop **middleware** for **clustered** PC servers.

Applications written to specs to **simultaneously** run on multiple PCs.

Basic **clustering** to show up in Compaq, HP servers next year.

Move will help put Windows NT on par with Unix for scalability.
...

15/3,K/24 **(Item 2 from file: 9)**
DIALOG(R)File 9:Business & Industry(R)
(c) 2003 Resp. DB Svcs. All rts. reserv.

01078327 (USE FORMAT 7 OR 9 FOR FULLTEXT)
IBM Parallel Push Pays
(IBM's PowerParallel systems have exceeded 1994 sales expectations and the company expects to earn about $200 mil in revenue on the systems)
Information Week, n 503, p 18
November 28, 1994
DOCUMENT TYPE: Journal ISSN: 8750-6874 (United States)
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 324

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:
...sales result from server consolidation, which doesn't take advantage of

the SP2 system's **parall●** **processing** capabilities, Cr●ers adds. Many
companies are **moving** to a **centrally** managed **cluster** of servers
because it eases the task of managing client-server environments.
"Customers can justify the purchase of an SP2 based on operational savings
of managing servers from a **central** location, and move to parallel
processing applications later," Crothers says.
Adding To The Ratio

Meanwhile...

 15/3,K/25   (Item 1 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext
(c) 2003 CMP Media, LLC. All rts. reserv.

01035687   CMP ACCESSION NUMBER: IWK19941128S0021
**IBM Parallel Push Pays - PowerParallel systems exceed sales goals to
    commercial market** (In Short)
Barbara DePompa
INFORMATIONWEEK, 1994, n 503, PG18
PUBLICATION DATE: 941128
JOURNAL CODE: IWK   LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: Top Of The Week
WORD COUNT: 327

...   sales result from server consolidation, which doesn't take
advantage of the SP2 system's **parallel** **processing** capabilities,
Crothers adds. Many companies are **moving** to a **centrally** managed
cluster of servers because it eases the task of managing client-server
environments. ``Customers can justify...

 15/3,K/26   (Item 2 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext
(c) 2003 CMP Media, LLC. All rts. reserv.

01021120   CMP ACCESSION NUMBER: WIN19940701S0838
Automap Pro - All The Right Routes
James E. Powell
WINDOWS MAGAZINE, 1994, n 507 , 174
PUBLICATION DATE: 940701
JOURNAL CODE: WIN   LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: first impressions
WORD COUNT: 443

...   the display of places of interest, forests, lakes and rivers, time
zones, state and county **boundaries** , and latitude and longitude lines.
Multiple map windows can be opened **simultaneously** and, if you make
changes to one, they will all be **updated** .
     The trip planner is the **centerpiece** of the program. It calculates
the quickest, shortest and least expensive route for a journey...

 15/3,K/27   (Item 1 from file: 98)
DIALOG(R)File 98:General Sci Abs/Full-Text
(c) 2003 The HW Wilson Co. All rts. reserv.

03767843   H.W. WILSON RECORD NUMBER: BGSA98017843   (USE FORMAT 7 FOR
FULLTEXT)
**Sexual strategy and size dimorphism in rattlesnakes: integrating proximate
    and ultimate causation.**
Duvall, David
Beaupre, Steven J
American Zoologist (Am Zool) v. 38 no1 (1998) p. 152-65
SPECIAL FEATURES: bibl il   ISSN: 0003-1569
 LANGUAGE: English

(USE FORMAT 7 FOR FULLTEXT)

TEXT:
...   predators and finding safe and acceptably warm overnight refugia.
Nevertheless, when all alternative explanations for **movement** and travel
at this time are considered **concurrently** , the major function or ultimate
goal served is location of sparse deermouse **clusters** (Duvall et al.,
1990). Subsequently, in approximately the **middle**   of summer, a 7-week
mating season ensues and continues until just about season's...

 15/3,K/28   (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

11409493   SUPPLIER NUMBER: 56196510   (USE FORMAT 7 OR 9 FOR FULL TEXT)
The rest of the SoC task. (SPEAKING OF SILICON) (Technology Information)
Wilson, Ron
Electronic Engineering Times, 43
Oct 11, 1999
ISSN: 0192-1541   LANGUAGE: English   RECORD TYPE: Fulltext
WORD COUNT: 464   LINE COUNT: 00038

...   replace: a large number of specialized packet engines running at
line speed, clustered around a **central** higher-level CPU and linked by a
more or less flexible interconnect **matrix** .
     But in following this model, the network processors have left behind
the old microcontroller paradigm and have started **moving** toward the
concept of **parallel   processing** . If you put your finger over the CPU
block, the data sheet diagram for one...

 15/3,K/29   (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.

08124425   SUPPLIER NUMBER: 17389671   (USE FORMAT 7 OR 9 FOR FULL TEXT)
**Plastics technology: manufacturing handbook & buyers' guide 1995/96. (Buyers
    Guide)**
Plastics Technology, v41, n8, pCOV(941)
August, 1995
DOCUMENT TYPE: Buyers Guide   ISSN: 0032-1257   LANGUAGE: English
RECORD TYPE: Fulltext
WORD COUNT: 174436   LINE COUNT: 15187

...   tooling and downstream suppliers to offer complete systems for PVC
windows.
     KUHNE GMBH
     See O/ **K** International.
     LCI CORP.
     Specialized processing machines and systems, gear pumps,
microprocessor controls, motionless mixers, and...transport blower, and
pellet cooler. Production rates to 3300 lb/hr.
     RIETER CORP. PELLETIZING MACHINERY **GROUP**
     Strand pelletizers have capacities from 200 to 14,000 lb/hr. USG 150,
300, and...DIN) and 1000 (1/8-DIN) single-loop temperature controllers
feature dual LED display for **simultaneous** viewing of process and
set-point values. Units provide relay, logic, or triac control output

```
Set       Items    Description
S1           3     KMEAN? OR K()MEAN? ?
S2       12929     CENTROID? OR CENTER? OR CENTRAL? OR MEDIAN? OR MIDPOINT? OR
                   MID()POINT? OR MIDDLE?
S3        2432     CLUSTER? OR MATRIX? OR PARTITION? OR DATA()POINT? OR BOUND-
                   AR?
S4        3872     PARALLEL()PROCESS? OR CONCUR? OR CO()OCCUR? OR COOCCUR? OR
                   SIMULTAN? OR SAME()TIME?
S5       13170     MOVE? OR REALIGN? OR REASSIGN? OR REDESIGNAT? OR MOVING OR
                   UPDAT? OR UP()(DATE? OR DATING?)
S6           0     S1 AND S4
S7           1     S2(5N)S5 (10N) S3 (10N) S4
S8           3     S2(S)S5(S)S3(S)S4
S9           6     S8 OR S1
S10          5     S9 NOT PY>2000
S11          5     S10 NOT PD>20001004
File 256:SoftBase:Reviews,Companies&Prods. 82-2003/Jan
          (c)2003 Info.Sources Inc
```

11/3,K/1

01109886   DOCUMENT TYPE: Product

PRODUCT NAME: GeneSight 3 (109886)

BioDiscovery Inc (695629)
4640 Admiralty Way #710
Marina Del Rey, CA 90292 United States
TELEPHONE: (310) 306-9310

RECORD TYPE: Directory

CONTACT: Sales Department

REVISION DATE: 020926

...and statistical significance testing. It is compatible with Affymetrix
GeneChip. It includes statistical confidence analysis, **K - Means**
clustering, and pattern similarity searching features. GeneSight also
offers researchers time series and principal component...

 11/3,K/2

00121171   DOCUMENT TYPE: Review

PRODUCT NAMES: KnowledgeSTUDIO 2.0   (704555)

TITLE: Angoss touts flexible framework
AUTHOR: MacMillan, Michael
SOURCE: Computerworld Canada,   v15 n21 p36(2) Oct 22, 1999
ISSN: 1484-9089
HOMEPAGE: http://www.lti.on.ca

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

REVISION DATE: 20000830

...IV, ODBC, SAS, and SPSS. The data mining algorithms that are supported
include CHAID, SAID, **K - Means** and Entropy decision tree algorithms, as
well as multilayered perception, radial basis formation, and probabilistic
...

 11/3,K/3

00113438   DOCUMENT TYPE: Review

PRODUCT NAMES: Netscape Enterprise Server 3.6 (608904)

TITLE: Netscape boosts enterprise tools: Enterprise Server upgraded
AUTHOR: Fitzloff, Emily
SOURCE: InfoWorld,   v21 n3 p43(1) Jan 18, 1999
ISSN: 0199-6649
HOMEPAGE: http://www.infoworld.com

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

REVISION DATE: 20020630

...and Enterprise Server 3.6 ships with Netscape Directory Server, which
provides administrators with a **central** management tool for managing
resources, including users and groups located across the enterprise.
Multiple servers are handled as one **cluster** , and administrators can start
or stop remote services or **update** remote configuration files
concurrently . Enterprise Server 3.6 supports standardized remote
monitoring from network management systems, including OpenView, Tivoli...

11/3,K/4
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
(c)2003 Info.Sources Inc. All rts. reserv.

00110848   DOCUMENT TYPE: Review

PRODUCT NAMES: GIS   (830278)

TITLE: Identify Data Patterns
AUTHOR: Berry, Joseph K
SOURCE: GIS World,   v11 n8   p26(2) Aug 1998
ISSN: 0897-5507
HOMEPAGE: http://www.gisworld.com

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

REVISION DATE: 19990830

...system (GIS) users do not know data mining and knowledge procedures. To
find spatial patterns, **k – means** clustering can be used to discretionally
establish two cluster centers in a data space used...

11/3,K/5
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
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00079725   DOCUMENT TYPE: Review

PRODUCT NAMES: FileWave 2.1.2   (435538)

TITLE: FileWave 2.1.2
AUTHOR: Beckman, Mel
SOURCE: Macworld,   v12 n7   p63(2) Jul 1995
ISSN: 0741-8647
HOMEPAGE: http://www.macworld.com

RECORD TYPE: Review
REVIEW TYPE: Review
GRADE: A

REVISION DATE: 20020630

Wave Research's FileWave 2.1.2 software distribution utility automates the
process of **updating** software across a LAN. The administrator can keep a
central repository of files, and distribute them transparently to the
end-user. The software includes three...
...s desktop. The repository volume appears like any shared volume,
although it is a temporary **partition** of the server Mac's hard disk. The
system will distribute files **simultaneously** to all specified end-users,
and will actually send the data when each user machine...

```
Set      Items    Description
S1         121    KMEAN? OR K()MEAN? ?
S2     1119917    CENTROID? OR CENTER? OR CENTRAL? OR MEDIAN? OR MIDPOINT? OR
                  MID()POINT? OR MIDDLE?
S3      459688    CLUSTER? OR MATRIX? OR PARTITION? OR DATA()POINT? OR BOUND-
                  AR?
S4      710337    PARALLEL()PROCESS? OR CONCUR? OR CO()OCCUR? OR COOCCUR? OR
                  SIMULTAN? OR SAME()TIME?
S5     2092376    MOVE? OR REALIGN? OR REASSIGN? OR REDESIGNAT? OR MOVING OR
                  UPDAT? OR UP()(DATE? OR DATING?)
S6           1    S1 AND S4
S7          34    S2(5N)S5 AND S3 AND S4
S8           1    S7 AND IC=G06F?
S9           7    S2 AND S5 AND S3 AND S4 AND (ALGORITHM? OR FORMULA? OR STA-
                  TISTICAL()METHOD? OR CALCULATION?)
S10       7274    (CLUSTER? OR GROUP? OR DATAPOINT? OR DATA()POINT? OR BOUND-
                  AR?)(2N)S5
S11         69    S10 AND S3 AND S4
S12         22    S11 AND IC=G06F?
S13         31    S6 OR S8 OR S9 OR S12
S14         31    IDPAT (sorted in duplicate/non-duplicate order)
S15         30    IDPAT (primary/non-duplicate records only)
File 344:Chinese Patents Abs Aug 1985-2003/Jan
         (c) 2003 European Patent Office
File 347:JAPIO Oct 1976-2002/Oct(Updated 030204)
         (c) 2003 JPO & JAPIO
File 350:Derwent WPIX 1963-2003/UD,UM &UP=200313
         (c) 2003  Thomson Derwent
```

014333921   **Image available**
WPI Acc No: 2002-154624/200220
XRAM Acc No: C02-048311
XRPX Acc No: N02-117587
  **Performing bioassay to qualitatively and/or quantitatively analyze
  molecular interaction between analyte and binding agent involves use of
  particle arrays**
Patent Assignee: BIOARRAY SOLUTIONS LTD (BIOA-N)
Inventor: BANERJEE S; CHAU WO C; PODUAL K; XIANG LI A
Number of Countries: 094 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200198765	A1	20011227	WO 2001US20179	A	20010621	200220	B
AU 200172993	A	20020102	AU 200172993	A	20010621	200230	

Priority Applications (No Type Date): US 2000213106 P 20000621
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200198765	A1	E	70	G01N-027/26	

    Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
    CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP
    KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT
    RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
    Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
    IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

| AU 200172993 | A | | | G01N-027/26 | Based on patent WO 200198765 |

Abstract (Basic): WO 200198765 A1
        NOVELTY - Performing bioassay involves use of a particle array
    comprising at least two different particle populations, each population
    being distinguishable by a binding agent (BA) attached to it, where
    particles are associated with a chemically or physically
    distinguishable characteristic that uniquely identifies BA on
    particles.
        DETAILED DESCRIPTION - Performing (M1) a bioassay involves:
        (i) providing several particles (I) comprising at least two
    different particle populations, each population being distinguishable
    by a BA attached to it, and where the particles arranged in a planar
    array on a substrate are associated with a chemically or physically
    distinguishable characteristic that uniquely identifies the BAs on the
    particles;
        (ii) generating a de-coding image (DI) of the array showing the
    location of each BA in the array;
        (iii) contacting the BAs with a sample that may contain an analyte
    so as to allow the analyte, if present in the sample, to form an
    analyte-BA complex with one or more BAs, where the formation of each
    complex results in a corresponding or a proportional change in the
    optical signature associated with the particles whose BA is involved in
    the formation of the complex;
        (iv) generating an assay image (AI) of the array which detects the
    change in the optical signature associated with the particles, and
    deriving from the change in the optical signature the number of
    analyte-BA complexes formed; and
        (v) determining the identity of the analyte in the analyte-BA
    complex by comparing DI with AI. The method optionally involves
    providing (I), where the particles are not arranged in a planar array
    on a substrate; contacting BAs with the sample that may contain an
    analyte to form an analyte-BA complex with one or more BAs; forming
    planar array of particles on a substrate; generating AI of the array;
    generating DI of the array, where DI of the array is generated either
    before or after generating the assay image; and determining the
    identity of the analyte in the analyte-BA complex formed by comparing
    DI with AI.

INDEPENDENT CLAIMS are also included for the following:

(1) integrating (M3) sample preparation and bioassay using magnetic particles involves providing several magnetic particles comprising at least two different particle populations, each population being distinguishable by a recognition molecule attached to it, where the particles are attached to a chemical characteristic that uniquely identifies a biomolecule of interest that selectively binds to the recognition molecule; providing a biological fluid containing biomolecules and allowing the biomolecules to interact with the recognition molecules on the magnetic particles; removing the fluid along with unbound components; transforming the biomolecules bound to the magnetic particles to produce transformed biomolecules, where the transformed biomolecules remain attached to the magnetic particles on which they are synthesized; performing (M1), where the BAs comprise the transformed biomolecules;

(2) performing (M4) a bioassay involving integration of a sample preparation and parallel molecular interaction assay analysis involves providing an apparatus comprising at least a sample preparation compartment and an assay compartment, and a unit for fluidically connecting the sample and the assay compartments; providing, in the sample preparation compartment, a biological fluid containing a biomolecule of interest and several magnetic particles capable of binding to the biomolecule of interest, and allowing the magnetic particles to bind the biomolecules of interest; removing the biological fluid along with unbound components of the fluid, while retaining the magnetic particles and the biomolecules bound to the particles; releasing the biomolecules from the magnetic particles and transporting the biomolecules from the sample preparation compartment to the assay compartment through the fluidic unit; and performing (M1) where the analyte in the bioassay comprises transported biomolecules of interest;

(3) preparing (M5) monodisperse magnetic fluorescent particles involves providing polymeric microparticles and swelling the microparticles in an organic solvent containing one or more magnetic nanoparticles to produce magnetic particles, where the fluorescent dyes and the magnetic nanoparticles are distributed throughout the magnetic particles without being localized at specific locations within the particle; and

(4) an array comprising several magnetic particles comprising at least two different particle populations distinguishable by a chemical characteristic associated with it, where the magnetic particles are assembled on a planar array in a compositionally random manner.

USE - Performing bioassay using a particle array. (M1) is useful for performing qualitative and/or quantitative molecular interaction analysis between two classes of molecules (an analyte and BA). (M1) is useful for determining (M2) elements of a co-affinity **matrix** which describes pair-wise analyte-binding interactions in a competitive multiconstituent equilibrium reaction. The change in optical signature in all the above mentioned method comprises a change in the fluorescence intensity associated with the particles involved in the binding interaction. The AI and DI are compared using a template matching **algorithm** . The planar array is preferably immobilized on the substrate and the particles are associated with a chemically distinguishable characteristic e.g., a fluorophore tag (all claimed).

ADVANTAGE - The methods permit rapid customization of DNA or protein arrays without the need for process redesign and avoid problems contributing to spot-to-spot as well as chip-to-chip variability. Furthermore, the bead array format permits chip-independent characterization of beads as well as optimization of assay conditions. In addition, multiple bead arrays can be formed **simultaneously** in discrete fluid compartments maintained on the same chip, permitting the **concurrent** processing of multiple samples.

DESCRIPTION OF DRAWING(S) - The figure shows the flow process including the production of random encoded bead arrays and their use in multiplexed assays.

pp; 70 DwgNo 1/21

Title Terms: PERFORMANCE; QUALITATIVE; QUANTITATIVE; ANALYSE; MOLECULAR; INTERACT; ANALYTE; BIND; AGENT; PARTICLE; ARRAY

Derwent Class: B04; D16; P73
International Patent Class (Main): G01N-027/26
International Patent Class (Additional): C12P-019/34; G01N-021/00;
  G01N-033/553
File Segment: CPI; EPI

  15/5/2   (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013735892
WPI Acc No: 2001-220122/200123
XRAM Acc No: C01-065848
XRPX Acc No: N01-156893
  **Cyclone apparatus for processing and treating sewage has conical section
  with inlet tube, rotor for creating reverse vortices upstream in cyclonic
  air-stream, and feed inlet tube**
Patent Assignee: JARRETT C G (JARR-I); YOUDS M W (YOUD-I)
Inventor: JARRETT C G; YOUDS M W
Number of Countries: 001 Number of Patents: 002
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
GB 2354232   A   20010321 GB 9918301   A   19990803 200123 B
GB 2354232   B   20011107 GB 9918301   A   19990803 200169

Priority Applications (No Type Date): GB 9918301 A 19990803
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
GB 2354232   A   8 C02F-001/38
GB 2354232   B   C02F-001/38
Abstract (Basic): GB 2354232 A
        NOVELTY - A cyclone apparatus comprises a conical section with
    inlet tube; a rotor for creating reverse vortices upstream in a
    cyclonic air-stream; and a feed inlet tube for feeding the sewage into
    the centripetal **boundary** envelope, in conical section, within the
    reverse vortex for treating and processing the sewage in the conical
    section and in the rotor.
        DETAILED DESCRIPTION - A cyclone apparatus comprises a conical
    section with inlet tube; a rotor for creating reverse vortices upstream
    in a cyclonic air-stream; and a feed inlet tube for feeding the sewage
    into the centripetal **boundary** envelope, in conical section, within
    the reverse vortex for treating and processing the sewage in the
    conical section and in the rotor. The rotor has an inlet for the
    movement of the air-stream and sewage, and an outlet corridor with
    exit tube. The wider area of the conical section is 67% the diameter of
    the rotor.
        USE - For processing and treating sewage.
        ADVANTAGE - The invention reduces the cost of treatment and enables
    sewage companies to reduce transport cost. It removes some of the
    pathogens and dries the sewage at the **same   time** .
        pp; 8 DwgNo 0/0
Title Terms: CYCLONE; APPARATUS; PROCESS; TREAT; SEWAGE; CONICAL; SECTION;
  INLET; TUBE; ROTOR; REVERSE; VORTEX; UPSTREAM; CYCLONE; AIR; STREAM; FEED
  ; INLET; TUBE
Derwent Class: D15; P41
International Patent Class (Main): C02F-001/38
International Patent Class (Additional): B04C-005/00; C02F-001/78;
  C02F-011/12; C02F-103-00
File Segment: CPI; EngPI

  15/5/3   (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013499961   **Image available**
WPI Acc No: 2000-671902/200065

XRPX Acc No: N00-498069

Particle motion estimating method for structures in computer modeling, involves updating local boundary flux estimate among nodes using parallel prefix method, based on which particle motion estimate is calculated

Patent Assignee: UNIV TEXAS A & M SYSTEM (TEXA)
Inventor: JARVIS R D; NELSON P
Number of Countries: 001   Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6120548	A	20000919	US 9622037	A	19960722	200065	B
			US 97897728	A	19970721		

Priority Applications (No Type Date): US 9622037 P 19960722; US 97897728 A 19970721
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6120548	A		15	G06F-007/60	Provisional application US 9622037

Abstract (Basic): US 6120548 A
    NOVELTY – A cell group node is assigned to each of several processors. A cell edge flux, flux functional and source functional for each cell is computed. A new cell internal source term and new cell edge angular flux estimate of cell edge flux, for each cell are calculated. The local **boundary** flux estimate among nodes is updated using a parallel prefix method, based on which particle motion estimate is calculated.
    DETAILED DESCRIPTION – The structure is modeled spatially into preset number of cells. A functional relationship describing the particle motion through the structure is formulated. An INDEPENDENT CLAIM is also included for particle motion estimating system.
    USE – For estimating particle motion of neutral particles in computer modeling or designing equipments such as nuclear reactors, nuclear devices, medical treatment, diagnostic equipment and also for modeling other particle systems such as rarified gases, semiconductors, vehicular traffic.
    ADVANTAGE – The particle motion estimation uses **simultaneous** calculation of cell edge flux estimate to achieve Gauss-seidel convergence rates for the source iteration of particle flux calculations. The estimation also achieves a Gauss-Seidel convergence rates on the source iteration for particle flux estimate calculations using **parallel   processors** .
    DESCRIPTION OF DRAWING(S) – The figure shows flow chart of iterative method for estimating particle motion.
    pp; 15 DwgNo 2/7
Title Terms: PARTICLE; MOTION; ESTIMATE; METHOD; STRUCTURE; COMPUTER; UPDATE; LOCAL; **BOUNDARY** ; FLUX; ESTIMATE; NODE; PARALLEL; PREFIX; METHOD ; BASED; PARTICLE; MOTION; ESTIMATE; CALCULATE
Derwent Class: T01
International Patent Class (Main): **G06F-007/60**
International Patent Class (Additional): **G06F-017/10** ; **G06F-101/00**
File Segment: EPI

 15/5/4   (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012577792   **Image available**
WPI Acc No: 1999-383899/199932
XRPX Acc No: N99-287397
 Integrated circuit chip designing method
Patent Assignee: LSI LOGIC CORP (LSIL-N)
Inventor: ALESHIN S V; ANDREEV A E; KOFORD J S; KUDRYAVTSEV V B; PODKOLZIN A S; ROSEBOOM E M; SCEPANOVIC R
Number of Countries: 001   Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5909376	A	19990601	US 95560848	A	19951120	199932	B

Priority Applications (No Type Date): US 95560848 A 19951120
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
US 5909376   A   25 G06F-017/50

Abstract (Basic): US 5909376 A
        NOVELTY - **Cluster** cells with each **cluster** assigned to
predefined and non-overlapping regions constituting region groups on
chip are positioned. **Reassignment** of **clusters** to non- overlapping
regions in region group is done. Predefined and non- overlapping
regions are recombined to form different groups and **clusters** are
reassigned until end criteria is attained.
        USE - For designing micro electronic integrated circuit chip using
programmed digital computer.
        ADVANTAGE - **Partitioning** problem is solved by **concurrently**
assigning cells to more than two regions. Initial placement is improved
using min-cut method. **Cluster** is **moved** from any specific region to
another region by sufficient repetition of assignment using alternating
jiggles.
        DESCRIPTION OF DRAWING(S) - The figure shows flowchart illustrating
IC chip designing method.
        pp; 25 DwgNo 7/20
Title Terms: INTEGRATE; CIRCUIT; CHIP; DESIGN; METHOD
Derwent Class: T01
International Patent Class (Main): **G06F-017/50**
File Segment: EPI

 15/5/5   (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012370851   **Image available**
WPI Acc No: 1999-176958/199915
XRPX Acc No: N99-130472
  **Mouse and keyboard switching device - has switching process unit that
  generates last position of cursor from used display screen to display
  screen which is going to be used, when shifting from one display screen
  to another**
Patent Assignee: MITSUBISHI ELECTRIC CORP (MITQ)
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
JP 11031064   A   19990202 JP 97186109   A   19970711 199915 B

Priority Applications (No Type Date): JP 97186109 A 19970711
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
JP 11031064   A   8 G06F-003/14

Abstract (Basic): JP 11031064 A
        NOVELTY - Switching process units (7,10) generate the last position
of a cursor from a used display screen to the display screen which is
going to be used next, when shifting from one display screen to another
display screen. A structure information memory unit (18) stores the
coordinates of each display screen of the display devices. DETAILED
DESCRIPTION - An INDEPENDENT CLAIM is also included for a mouse and
keyboard switching method.
        USE - None given.
        ADVANTAGE - Improves processing work since a display screen is
simultaneously operated using one mouse and one keyboard. Enables
using a simple password by setting up a **boundary** layer. Enables
moving the cursor on a screen having different resolutions. Enables
easy identification of the screen. Enables quickly restarting the
operation after an interruption. DESCRIPTION OF DRAWING(S) - The figure
shows the system block diagram of the mouse and keyboard switching
device. (7,10) Switching process unit; (18) Structure information

memory unit.
        Dwg.1/12
Title Terms: MOUSE; KEYBOARD; SWITCH; DEVICE; SWITCH; PROCESS; UNIT;
   GENERATE; LAST; POSITION; CURSOR; DISPLAY; SCREEN; DISPLAY; SCREEN; SHIFT
   ; ONE; DISPLAY; SCREEN
Derwent Class: T01; T04
International Patent Class (Main): **G06F-003/14**
International Patent Class (Additional): **G06F-003/00** ; **G06F-003/033**
File Segment: EPI

   15/5/6   (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011931079   **Image available**
WPI Acc No: 1998-347989/199830
XRPX Acc No: N98-271679
   Parallel   processing **system for multiple hypothesis tracking
  operations - includes central database of radar tracks for processors for**
   parallel   processing
Patent Assignee: RAYTHEON CO (RAYT)
Inventor: GOTFRIED R L; KUBLER D C; LEDFORD G D; OXFORD S C; ZAHAVI J S
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
US 5765166   A   19980609 US 96636435   A   19960423 199830 B

Priority Applications (No Type Date): US 96636435 A 19960423
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
US 5765166   A   6 G06F-017/30

Abstract (Basic): US 5765166 A
        The system includes a radar producing an input data stream
   organized as a series of radar tracks. A central database stored in a
   shared memory that is organized as a collection of the radar tracks. A
   number of processors are each coupled to the shared memory and the
   central database, and to the radar and where they are configured such
   that the next available processor retrieves the next successive
   measurement **data   point** from the input data stream, and updates
   tracks in the database using each retrieved measurement **data   point** .

        All processors operate independently without external
   synchronization, **partitions** the database into noninteracting
   clusters . **Partitioning** is executed in parallel by the number of
   processors which operate independently without external
   synchronization, retrieves the next successive **cluster** , forms and
   selects hypotheses based on the retrieved **cluster** , and **updates** the
   database based on the selected hypotheses.
        ADVANTAGE - Provides efficient use of memory and processing
   resources. Is fault tolerant.
        Dwg.1/2
Title Terms: PARALLEL; PROCESS; SYSTEM; MULTIPLE; HYPOTHESIS; TRACK;
   OPERATE; CENTRAL; DATABASE; RADAR; TRACK; PROCESSOR; PARALLEL; PROCESS
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
File Segment: EPI

   15/5/7   (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011860026   **Image available**
WPI Acc No: 1998-276936/199825
XRPX Acc No: N98-217845
   Parallel   processing **method in hierarchical multi-processor - involves**

processing intersection area of loop variable of inner and external
loops, for corresponding task execution
Patent Assignee: NEC CORP (NIDE   )
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 10091591	A	19980410	JP 96261325	A	19960910	199825	B

Priority Applications (No Type Date): JP 96261325 A 19960910
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 10091591	A		10	G06F-015/16	

Abstract (Basic): JP 10091591 A
        The method involves storing the first value of a loop variable of
    an external loop, in a **cluster** communication register (GCR0). When
    the stored value is accessed by predetermined processor (11) of each
    cluster (1), **updating** of other communication registers of reference
    cluster is performed by suitable instructions and a common share area
    is established.
        The first value of inner loop is stored in other communication
    register (LCR0). When the loop variable value is acquired by other
    processors (12-1 - 12-n), updating of reference communication registers
    of **clusters** is performed and an auto- program area is set for common
    sharing. The intersecting portion of the loop variable of the inner and
    external loops is executed as a task, using the share area.
        ADVANTAGE - Ensures efficient **parallel   processing** . Produces
    both single and double loop easily.
        Dwg.3/6
Title Terms: PARALLEL; PROCESS; METHOD; HIERARCHY; MULTI; PROCESSOR;
  PROCESS; INTERSECT; AREA; LOOP; VARIABLE; INNER; EXTERNAL; LOOP;
  CORRESPOND; TASK; EXECUTE
Derwent Class: T01
International Patent Class (Main): **G06F-015/16**
File Segment: EPI

 15/5/8   (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011354419   **Image available**
WPI Acc No: 1997-332326/199730
XRPX Acc No: N97-275889
  Methodof simultaneously **moving element included in editing area of
  drawing displayed on computer display - involves changing co-ordinates of
  detected drawing elements drawn within specified editing area, based on
  specified moving distance and specified moving direction**
Patent Assignee: CASIO COMPUTER CO LTD (CASK   )
Inventor: NAGAI S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5640499	A	19970617	US 93140577	A	19931021	199730	B
			US 96625838	A	19960401		

Priority Applications (No Type Date): JP 92351602 A 19921209
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5640499	A		11	G06F-015/00	Cont of application US 93140577

Abstract (Basic): US 5640499 A
        The method involves displaying a drawing on the display unit. An
    editing area of the drawing displayed on the display unit is specified
    with a **boundary** line. A **moving** distance and a moving direction are
    specified. All drawing elements which are drawn within the specified
    editing area and all drawing elements which are drawn across the
    boundary line of the specified editing area are detected. The

co-ordinates of the detected drawing elements drawn within the
specified editing area and the co-ordinates of the another end points
of the detected drawing elements inside the specified editing area are
changed based on the specified moving distance and the specified moving
direction. All of the detected drawing elements originally drawn across
the **boundary** line of the specified editing area between the original
co-ordinates of the one end points outside the specified editing area
are redrawn.
        ADVANTAGE - Edits editing are such that lines included in drawing
elements are not left broken in edited drawing.
        Dwg.2,3/8
Title Terms: **SIMULTANEOUS** ; MOVE; ELEMENT; EDIT; AREA; DRAW; DISPLAY;
    COMPUTER; DISPLAY; CHANGE; CO; ORDINATE; DETECT; DRAW; ELEMENT; DRAW;
    SPECIFIED; EDIT; AREA; BASED; SPECIFIED; MOVE; DISTANCE; SPECIFIED; MOVE;
    DIRECTION
Derwent Class: T01
International Patent Class (Main): **G06F-015/00**
File Segment: EPI

  15/5/9   (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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011187581   **Image available**
WPI Acc No: 1997-165506/199715
XRPX Acc No: N97-136255
    **Process and project management on computer system - has one work process
    object which supports all modes delimited by dynamically** moving
    boundaries **at** same **time**
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: BANDAT K; LEISTEN U; PARNCUTT G; VOESCH E
Number of Countries: 018 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9707472	A1	19970227	WO 95EP3289	A	19950818	199715	B
EP 787332	A1	19970806	EP 95930496	A	19950818	199736	
			WO 95EP3289	A	19950818		
JP 9512377	W	19971209	WO 95EP3289	A	19950818	199808	
			JP 97508852	A	19950818		
US 6023702	A	20000208	WO 95EP3289	A	19950818	200014	
			US 98765848	A	19981210		

Priority Applications (No Type Date): WO 95EP3289 A 19950818
Cited Patents: 5.Jnl.Ref; WO 9418620
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9707472	A1	E	79	G06F-017/60	
Designated States (National): JP US					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
US 6023702	A			G06F-017/30	Based on patent WO 9707472
EP 787332	A1	E		G06F-017/60	Based on patent WO 9707472
Designated States (Regional): DE FR GB					
JP 9512377	W		73	G06F-017/60	Based on patent WO 9707472

Abstract (Basic): WO 9707472 A
        The method of process and project management involves using process
    instances which are represented by digital data and derived from a
    process schema. Project instances are represented by digital data.
    These are derived from a process instance or from a project schema. A
    work process object (1001) in a database is created.
        Data concerning the process and project management is reported to
    the work process object. The work process object is used as well as a
    common database. The work process object has a structure of a directed
    graph. It is evolved in stages.
        USE/ADVANTAGE - For product design, development and manufacture.
    Allows dynamic changes with only minimum computing and storage

requirements. Provide user with lots of information.
    Dwg.10/10
Title Terms: PROCESS; PROJECT; MANAGEMENT; COMPUTER; SYSTEM; ONE; WORK;
  PROCESS; OBJECT; SUPPORT; MODE; DELIMIT; DYNAMIC; MOVE; **BOUNDARY** ; TIME
Derwent Class: T01
International Patent Class (Main): **G06F-017/30** ; **G06F-017/60**
International Patent Class (Additional): **G06F-009/06**
File Segment: EPI

  15/5/10   (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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010960472   **Image available**
WPI Acc No: 1996-457421/199646
XRPX Acc No: N96-385458
  Error correction device for aircraft magnetometer - has calculation
  modules connected to magnetometer and estimating coefficients of
  perturbation and translation matrices while central **module selects and**
  applies correction model, results being transmitted to analysis device
Patent Assignee: EUROCOPTER FRANCE (EURO-N); EUROCOPTER FRANCE SA (EURO-N)
Inventor: ASSOUS E C; PETILLON J; PETILLON J P
Number of Countries: 005 Number of Patents: 003
Patent Family:
Patent No   Kind   Date   Applicat No   Kind   Date   Week
EP 737866   A1   19961016   EP 96400438   A   19960301   199646   B
FR 2732773   A1   19961011   FR 954241   A   19950410   199648
US 5682335   A   19971028   US 96631703   A   19960409   199749

Priority Applications (No Type Date): FR 954241 A 19950410
Cited Patents: US 4611293; US 4870602; US 4972593; US 5182514
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
EP 737866   A1 F   28 G01R-033/025
   Designated States (Regional): DE GB IT
US 5682335   A   15 G01C-021/00
FR 2732773   A1   G01R-033/00

Abstract (Basic): EP 737866 A
      The device (1) includes a **calculation** module (5) connected to a
    magnetometer (2) via a bus (4). A multiple connection (6) transmits all
    the information required about the aircraft on which the magnetometer
    is mounted. The **calculation** module uses a bespoke **algorithm** to
    calculate a **matrix** (E) whose coefficients represent the
    characteristic parameters of all the perturbations affecting the
    magnetometer.
      A second **calculation** module (7) collects data through other two
    links (8,9) and calculates the coefficients of a translation **matrix**
    (M). A **central** module (10) is connected to the magnetometer and the
    calculation modules and determines the correction model to be applied
    to calculate the effective magnetic field. The results are transmitted
    via a link (13) to an analysis device.
      USE - For correcting magnetic field measurement errors.
      ADVANTAGE - Can correct errors due to magnetic perturbations as
    well as those generated by other causes, e.g. mechanical perturbations.
    Is accurate in detecting and correcting errors due to various cause.
    Error detection and correction are done **simultaneously** . Has
    simplified structure.
      Dwg.1/5
Title Terms: ERROR; CORRECT; DEVICE; AIRCRAFT; MAGNETOMETER; CALCULATE;
  MODULE; CONNECT; MAGNETOMETER; ESTIMATE; COEFFICIENT; PERTURBATION;
  TRANSLATION; **MATRIX** ; **CENTRAL** ; MODULE; SELECT; APPLY; CORRECT; MODEL;
  RESULT; TRANSMIT; ANALYSE; DEVICE
Derwent Class: S01; S02; W06
International Patent Class (Main): G01C-021/00; G01R-033/00; G01R-033/025
International Patent Class (Additional): G01C-017/38; G01C-021/08;
  G06F-019/00

15/5/11   (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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010904921   **Image available**
WPI Acc No: 1996-401872/199640
Related WPI Acc No: 1996-139285; 1996-139286; 1996-160031; 1996-209042;
   1996-251352; 1996-370951
XRPX Acc No: N96-338598
   **Adaptive parameter kernel processor for radio communications in presence
   of non-Gaussian interference** - concurrently **executing copies of signal
   processing** algorithms , partitioning **signal magnitudes into sets,
   applying different probability density function to form average gain
   factor and finding min. factors**
Patent Assignee: US SEC OF NAVY (USNA)
Inventor: BOND J W; SCHLOSSET T W
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5550759	A	19960827	US 91707352	A	19910529	199640	B
			US 91707354	A	19910529		
			US 91713659	A	19910611		
			US 91713660	A	19910611		
			US 91766618	A	19910925		
			US 91766605	A	19910926		
			US 95511675	A	19950807		

Priority Applications (No Type Date): US 91707352 A 19910529; US 91707354 A
   19910529; US 91713659 A 19910611; US 91713660 A 19910611; US 91766618 A
   19910925; US 91766605 A 19910926; US 95511675 A 19950807
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5550759	A		8	H04B-015/00	Cont of application US 91707352
					Cont of application US 91707354
					Cont of application US 91713659
					Cont of application US 91713660
					Cont of application US 91766618
					Cont of application US 91766605
					Cont of patent US 5495496
					Cont of patent US 5495497
					Cont of patent US 5499399
					Cont of patent US 5509032
					Cont of patent US 5517531

Abstract (Basic): US 5550759 A
      The adaptive parameter kernel processor generates a signal
      magnitude value for each signal sample, **partitions** the signal
      magnitude values into sets, and **concurrently** executes multiple
      copies of the ALOD signal processing **algorithm** . Each copy of the
   signal processing **algorithm** applies a probability density
      function to the sets of signal magnitude values, generating a
      gain factor for each set.

      The probability density function includes a parameter that has
      a different value in each copy of the signal processing
        algorithm . Each copy of the signal processing **algorithm**
   generates an average gain factor associated with the corresponding
   parameter value. The parameter values are **updated** respectively in the
   multiple copies of the signal processing **algorithm** by a parameter
   comparator to cause the parameter value associated with the minimum
   average gain factor to approach the **midpoint** of the parameter values.
   An output signal is formed from the signal samples and an arithmetic
   function of the average gain factor associated with the **midpoint** of
   the parameter values.

USE/ADVANTAGE - Adaptive parameter kernel processor uses adaptive
locally optimum detection (ALOD) signal processing **algorithm** to
suppress interfering signals in communications signal. Enhanced
signal-to-noise ratio.
Dwg.3/4
Title Terms: ADAPT; PARAMETER; KERNEL; PROCESSOR; RADIO; COMMUNICATE;
PRESENCE; NON; GAUSS; INTERFERENCE; **CONCURRENT** ; EXECUTE; COPY; SIGNAL;
PROCESS; **ALGORITHM** ; **PARTITION** ; SIGNAL; MAGNITUDE; SET; APPLY;
PROBABILITY; DENSITY; FUNCTION; FORM; AVERAGE; GAIN; FACTOR; FINDER;
MINIMUM; FACTOR
Derwent Class: T01; W02
International Patent Class (Main): H04B-015/00
File Segment: EPI

15/5/12 **(Item 12 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
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010734831   **Image available**
WPI Acc No: 1996-231786/199624
Related WPI Acc No: 1997-401347; 1998-332467
XRPX Acc No: N96-194504
  **Obtaining graphical display of reduced-view spectrometer sections on
  computer system - has windows program which permits on screen comparison
  and/or manipulation of different spectrometer sections using overlay
  window to reduce risk of interpretation error**
Patent Assignee: BIO-RAD LAB INC (BIRA)
Inventor: BARBER L L; CARTER P V; OSLON M L; OLSON M L
Number of Countries: 003 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 19540126	A1	19960509	DE 1040126	A	19951027	199624	B
US 5579462	A	19961126	US 94333955	A	19941103	199702	
JP 8286656	A	19961101	JP 95282715	A	19951031	199703	
JP 3252082	B2	20020128	JP 95282715	A	19951031	200214	

Priority Applications (No Type Date): US 94333955 A 19941103
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19540126	A1		26	G01J-003/02	
US 5579462	A		23	G06F-015/00	
JP 8286656	A		19	G09G-005/36	
JP 3252082	B2		19	G01J-003/02	Previous Publ. patent JP 8286656

Abstract (Basic): DE 19540126 A
        The graphical display method involves a computer which uses a
windows program, with which a direct comparison can be made between the
spectra through **simultaneous** display on the VDU, whether alongside or
by superimposition. By comparing selected **data** **points** on the
display against relative indicators a difference spectrum showing
differences between the test spectrum and the reference can be
produced.
        Sections of the spectrum can be analysed in greater detail with on
screen wavelength measurement. A database of spectrum analyses can be
built up and a spectral library including name and index information
created for subsequent use. The system uses reduction and enlargement
of the spectra in a radial window and point-and-click graphic icons.
        ADVANTAGE - Improved user interface reduces risk of error in
analysis and enables build up of complete spectrum graphics and
analyses for further use, enabling user to intuitively and
interactively manipulate spectral data e.g. to perform spectral
subtraction.
        Dwg.1/20
Title Terms: OBTAIN; GRAPHICAL; DISPLAY; REDUCE; VIEW; SPECTROSCOPE;
SECTION; COMPUTER; SYSTEM; WINDOW; PROGRAM; PERMIT; SCREEN; COMPARE;
MANIPULATE; SPECTROSCOPE; SECTION; OVERLAY; WINDOW; REDUCE; RISK;
INTERPRETATION; ERROR

Derwent Class: P85; S01; 3
International Patent Class (Main): G01J-003/02; **G06F-015/00** ; G09G-005/36
International Patent Class (Additional): G01N-021/25; G01N-021/27;
  G01R-023/18; **G06F-003/14**
File Segment: EPI; EngPI

15/5/13   (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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010642385   **Image available**
WPI Acc No: 1996-139339/199614
XRPX Acc No: N96-116780
  Exchanging data between neighbouring mesh connected distributed memory
  parallel   processors - locally storing 1st data received from 1st
  neighbour in position related to that of 1st neighbour, forwarding 2nd
  data to next neighbour and locally storing in position related to that of
  forwarding neighbour
Patent Assignee: EASTMAN KODAK CO (EAST)
Inventor: COK R S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5495618	A	19960227	US 92935499	A	19920826	199614	B

Priority Applications (No Type Date): US 92935499 A 19920826
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5495618	A		17	G06F-015/16	

Abstract (Basic): US 5495618 A
     A first stage exchanges locally stored data with each of the four
  neighbour processors, and then a second stage exchanges the data just
  received from each processor with a different one of the same four
  processors. The mesh connection does not provide connections between
  processors in a diagonal direction. The first set of exchanges provides
  data from the processors on the left, right, above, and below which
  augments the local data tile on the corresponding side.
     The second set of exchanges provides the data from neighbours in
  the upper left corner, the upper right corner, the bottom right corner,
  and the bottom left corner in a transfer from the processors above,
  right, below and left, respectively. During the exchanges **data**
  pointers move in a direction opposite to the direction of data flow.

     ADVANTAGE - Optimises inter-processor bandwidth while maintaining
  consistency with typical data storage structures. Simple two-stage data
  exchange that operates for two or more dimensional data sets.
     Dwg.6,10,1
     4
Title Terms: EXCHANGE; DATA; NEIGHBOURING; MESH; CONNECT; DISTRIBUTE;
  MEMORY; PARALLEL; PROCESSOR; LOCAL; STORAGE; DATA; RECEIVE; NEIGHBOURING;
  POSITION; RELATED; NEIGHBOURING; FORWARDING; DATA; NEIGHBOURING; LOCAL;
  STORAGE; POSITION; RELATED; FORWARDING; NEIGHBOURING
Derwent Class: T01
International Patent Class (Main): **G06F-015/16**
International Patent Class (Additional): **G06F-009/00** ; **G06F-009/30**
File Segment: EPI

15/5/14   (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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010618969   **Image available**
WPI Acc No: 1996-115922/199612
XRPX Acc No: N96-096983
  Modification time updating method of file in cluster system - by

allowing each client to ●simultaneously update their l●●●l copy of
modification time field of shared file
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: DEVARAKONDA M V; KISH W A; MOHINDRA A; ZLOTEK A J
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5490270	A	19960206	US 94260867	A	19940616	199612	B

Priority Applications (No Type Date): US 94260867 A 19940616
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5490270	A		14	G06F-017/30	

Abstract (Basic): US 5490270 A
        The method involves maintaining at each of the clients, a locally
    cached copy of the modification time field of the shared file. Each of
    the clients are allowed to **simultaneously** update their local copy of
    the modification time. The local copies are reconciled whenever one of
    the clients requests to read the modification time.
        An exclusive-write lock is granted to the client on the
    modification time field of the shared file by a server when the client
    is requested to explicitly set the modification time. Separate copies
    are reconciled when a cache flush of a memory storing the modification
    time occurs.
        ADVANTAGE - Avoids contention among nodes in system. Allows
    multiple nodes **cluster** to **update** modification time of single file
    simultaneously while guaranteeing that modification time of that file
    will be accurately reflected for any reader of modification time.
        Dwg.1/7
Title Terms: MODIFIED; TIME; UPDATE; METHOD; FILE; **CLUSTER** ; SYSTEM; ALLOW
    ; CLIENT; **SIMULTANEOUS** ; UPDATE; LOCAL; COPY; MODIFIED; TIME; FIELD;
    SHARE; FILE
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
File Segment: EPI

 15/5/15   (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.

009838086   **Image available**
WPI Acc No: 1994-117942/199414
XRPX Acc No: N94-092444
    **Data transfer system between registers in microcomputer – transfers data
    directly from source register in register file connected to data bus from
    destination register in register file, through read data latch, data bus
    by-pass, and write data latch.**
Patent Assignee: MITSUBISHI DENKI KK (MITQ)
Inventor: HIGUCHI R; MIZUGAKI S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5303354	A	19940412	US 92909868	A	19920707	199414	B

Priority Applications (No Type Date): JP 91193504 A 19910708
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5303354	A		12	G06F-009/00	

Abstract (Basic): US 5303354 A
        The system has a data bus and a number of registers organised as a
    register file. A read data latch couples the data bus to a selected
    register in the register file. The read data latch includes a control
    input, wherein a read signal asserted on the control input of the read
    data latch causes the read data latch to apply contents of the selected
    register to the data bus. A write data latch couples the data bus to a

second selected register in the register file.
     The write data latch includes a control input, wherein a write
signal asserted on the control input of the write data latch causes the
write data latch to apply contents of the data bus to the second
selected register. A bypass controller, coupled between the read data
latch and the write data latch, transfers the contents of the read data
latch to the write data latch in response to a bypass signal. The
bypass controller bypasses the data bus in making the transfer.
     ADVANTAGE - **Update** of **data pointer** is possible **concurrently**
with transfer of data between source register and destination register.
Faster data transfer.
     Dwg.1/8
Title Terms: DATA; TRANSFER; SYSTEM; REGISTER; MICROCOMPUTER; TRANSFER;
  DATA; SOURCE; REGISTER; REGISTER; FILE; CONNECT; DATA; BUS; DESTINATION;
  REGISTER; REGISTER; FILE; THROUGH; READ; DATA; LATCH; DATA; BUS; BY-PASS;
  WRITING; DATA; LATCH
Derwent Class: T01
International Patent Class (Main): **G06F-009/00**
File Segment: EPI

15/5/16   (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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008331456   **Image available**
WPI Acc No: 1990-218457/199029
XRPX Acc No: N90-169543
  Sorting method for parallel processors - partitions **into P lists,**
  partitions **into sizes, after redistributing and sorting when no merge is**
  needed
Patent Assignee: IBM CORP (IBMC); INT BUSINESS MACHINES CORP (IBMC)
Inventor: IYER B R; RICARD G S; VARMAN P J; RICARD G R
Number of Countries: 004 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 378038	A	19900718	EP 89480181	A	19891206	199029	B
US 5179699	A	19930112	US 89297634	A	19890113	199305	

Priority Applications (No Type Date): US 89297634 A 19890113
Cited Patents: 3.Jnl.Ref; A3...9118; NoSR.Pub
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 378038	A				
Designated States (Regional): DE FR GB					
US 5179699	A		17	G06F-007/06	

Abstract (Basic): EP 378038 A
     The problem is that in which a large number of elements needs to be
sorted and where a number of processors is available. Clearly the
sorting time is divided by the number of processors if small lists are
sorted in parallel, but the time taken to merge the sorted lists
reduces this advantage. In this method the initial list is divided into
P smaller; and approximately equal, lists where P is the number of
processors. Then, instead of just sorting the lists, each processor
sorts and then **partitions** its list into P approximately equal lists
such that all the elements in the bottom lists are less than any in the
next, and so on. All the bottom lists are then given to one processor
to sort, all the second lists to another and so on. After a simple
merge sort it is only necessary to string the lists together, without
any merging, to obtain the sorted list.
     ADVANTAGE - Gives faster sorting than previous parallel methods.
  (50pp Dwg.No.3/3)
Title Terms: SORT; METHOD; PARALLEL; PROCESSOR; **PARTITION** ; P; LIST;
  PARTITION ; SIZE; AFTER; REDISTRIBUTE; SORT; NO; MERGE; NEED
Derwent Class: T01
International Patent Class (Main): **G06F-007/06**
International Patent Class (Additional): **G06F-007/16** ; **G06F-007/36** ;

15/5/17   (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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008293429   **Image available**
WPI Acc No: 1990-180430/199024
XRPX Acc No: N90-140237
   **Retro-propagation of errors in neutral network - uses multiple processors
   with two processing groups to compare results of learning from examples,
   and back propagates errors**
Patent Assignee: PHILIPS ELECTRONICS NV (PHIG); LEP LAB ELECTRONIQUE
   PHILIPS (PHIG); LAB ELECTRONIQUE PHILIPS SAS (PHIG); US PHILIPS CORP
   (PHIG)
Inventor: SIRAT J A; SIRAT J
Number of Countries: 008 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 372613	A	19900613	EP 89202979	A	19891123	199024	B
FR 2639736	A	19900601				199029	
EP 372613	B1	19960207				199610	
DE 68925625	E	19960321	DE 625625	A	19891123	199617	
			EP 89202979	A	19891123		
US 5517598	A	19960514	US 89441141	A	19891122	199625	
			US 91767348	A	19910927		
			US 93275911	A	19930128		

Priority Applications (No Type Date): FR 8815428 A 19881125
Cited Patents: 1.Jnl.Ref; WO 8807234
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 372613	A				
Designated States (Regional): CH DE FR GB IT LI SE					
EP 372613	B1	F	16	G06F-015/80	
Designated States (Regional): CH DE FR GB IT LI SE					
DE 68925625	E			G06F-015/80	Based on patent EP 372613
US 5517598	A		9	G06F-015/18	Cont of application US 89441141
					Cont of application US 91767348

Abstract (Basic): EP 372613 A
      The error retro-propagation is used in a layered neural network.
   The first step is a resolution process which determines for each layer
   the states of the output neurons relative to the states of the input
   neurons. The next step is the **updating** of the synaptic coefficients
   (Cij) during a learning process using teaching by example.
      The system uses two groups of computation functions implementing a
   learning phase operating on two examples. The implementation of the
   retro-propagation **algorithm** is in the second processing group. The
   desired neuron output state is compared with the actual neuron output
   state, and any errors are propagated backwards through the network. The
   synaptic coefficient **matrix** and the transposed **matrix** of the second
   group are generated **simultaneously** .
      USE/ADVANTAGE - E.g. in recognition of characters, or forms.
   Improved processing speed in layered neural network implemented on
   parallel computation architecture. (13pp Dwg.No.1/3
Title Terms: RETRO; PROPAGATE; ERROR; NEUTRAL; NETWORK; MULTIPLE; PROCESSOR
 ; TWO; PROCESS; GROUP; COMPARE; RESULT; LEARNING; EXAMPLE; BACK;
 PROPAGATE; ERROR
Derwent Class: T01; T04
International Patent Class (Main): G06F-015/18; G06F-015/80
International Patent Class (Additional): G06F-015/31; G06K-009/62
File Segment: EPI

15/5/18   (Item 18 from file: 350)

003788112
WPI Acc No: 1983-784341/198341
XRPX Acc No: N83-179292
**Feature extraction sorter for visual image processing system - uses
dedicated hardware modules which digitally process video image and
automatically identifies closed edge contours**
Patent Assignee: GENERAL ELECTRIC CO (GENE)
Inventor: BEALL D L; HART W G; TOMLINSON H W
Number of Countries: 008 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 90395	A	19831005				198341	B
US 4490848	A	19841225	US 82363665	A	19820331	198502	
US 4493105	A	19850108	US 82363664	A	19820331	198504	
CA 1197595	A	19851203				198602	
CA 1197607	A	19851203				198602	
EP 90395	B	19900829				199035	
DE 3381833	G	19901004				199041	

Priority Applications (No Type Date): US 82363665 A 19820331; US 82363664 A
19820331
Cited Patents: 1.Jnl.Ref; A3...8713; No-SR.Pub
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 90395	A	E	95		

Designated States (Regional): DE FR GB IT NL SE

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 90395	B				

Designated States (Regional): DE FR GB IT NL SE

Abstract (Basic): EP 90395 A
The visual image processing system is divided into a video
processing subsystem (200), an image processing subsystem (300) and an
overall system/decision processing subsystem (400). In the image
processing subsystem a corner point encoder (301) identifies and
encodes corner points in an input frame of binary-valued video data
from the image plane memory (202). The feature extractor/sorter (302)
identifies and constructs closed link sets of corner points identified
by the encoder.
Each time a corner point is added to a linked chain an incremental
calculation is made of the area, **centroid** , perimeter, principal
angle, maximum-minium x-y **boundaries** and so on. This effects an
overall time saving as compared with waiting for a complete closed edge
boundary to be identified. This arises from the **calculation** of the
increments **simultaneously** with the image processor initiating
identification of another corner point. The system is applied to
testing the geometry of manufactured parts (100) on a **moving** conveyor
belt
Title Terms: FEATURE; EXTRACT; SORT; VISUAL; IMAGE; PROCESS; SYSTEM;
DEDICATE; HARDWARE; MODULE; DIGITAL; PROCESS; VIDEO; IMAGE; AUTOMATIC;
IDENTIFY; CLOSE; EDGE; CONTOUR
Derwent Class: T01; T04; W02; W04; X25
International Patent Class (Additional): G06F-015/20; G06K-009/48
File Segment: EPI

 15/5/19   (Item 19 from file: 347)

06192608   **Image available**
DISPLAY METHOD FOR SCREEN WINDOW

PUB. NO.:   11-134159 [JP 11134159 A]
PUBLISHED: May 21, 1999 (19990521)
INVENTOR(s): TSUBOI JUNICHI

TEI RITSU ●   ●
APPLICANT(s): YAMATAKE CORP
APPL. NO.:   09-295992 [JP 97295992]
FILED: October 28, 1997 (19971028)
INTL CLASS: **G06F-003/14**

ABSTRACT

PROBLEM TO BE SOLVED: To properly relocate the screen windows.

SOLUTION: When an operator selects the **boundary** of a 1st window whose
size is changed and then designates the **movement** of the **boundary** , the
size of the 1st window is changed. At the **same** **time** , the other windows
are also changed into each proper size with no overlapping of these
windows. The size of the window 10a is increased when a pointer 11 is set
at the **boundary** among windows 10a to 10d and then moved with a button of
a pointing device kept depressed (Fig. a). Meanwhile, other windows 10b to
10d are adjusted in each proper size in response to the movement of the
selected ˙**boundary** (Fig. b).

 15/5/20   (Item 20 from file: 347)
DIALOG(R)File 347:JAPIO
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05532125   **Image available**
COMPUTING DEVICE

PUB. NO.:   09-146925 [JP 9146925 A]
PUBLISHED: June 06, 1997 (19970606)
INVENTOR(s): TANAKA SHINICHI
              SHUDO SHIGEO
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
              (Japan)
APPL. NO.:   07-304090 [JP 95304090]
FILED: November 22, 1995 (19951122)
INTL CLASS: [6] **G06F-017/12** ; **G06F-017/16** ; **G06F-017/50**
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)

ABSTRACT

PROBLEM TO BE SOLVED: To efficiently find numerical solutions for
 simultaneous linear equation at all times by performing processing at to
a skyline column group selected in order according to a skyline column
information table.

SOLUTION: Retrieval from a column head address table NP is performed to
extract a skyline column group having their upper ends of the column
successively trued up from a skyline **matrix** A, and the number indicating
the column at the head of the obtained skyline column group is stored in
the skyline column information table ITBL in linear array (step 101). And,
the number of the skyline columns constituting the skyline column **group**
 to be **updated** which is specified with a loop control variable I is set
to an operation variable IBEL (step 105) and an initial value (=1) is set
to a loop control variable J specifying a skyline column group to be
referred to (step 106), thereby starting the low- order loop of steps
107-111.

 15/5/21   (Item 21 from file: 347)
DIALOG(R)File 347:JAPIO
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04763907   **Image available**
CIPHERING AND DECIPHERING DEVICE FOR DATA SECURITY PROTECTION DEVICE

PUB. NO.:   07-056507 [JP 7056507 A]
PUBLISHED: March 03, 1995 (19950303)

INVENTOR(s): MIYAUCHI HIROSHI
AWATA KAZUTOYO
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 05-200875 [JP 93200875]
FILED: August 12, 1993 (19930812)
INTL CLASS: [6] G09C-001/00; G06F-012/00
JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 45.2 (INFORMATION PROCESSING
-- Memory Units)

ABSTRACT
PURPOSE: To eliminate special operation when individual keys are lost,
etc., by storing the individual keys as key information with files.

CONSTITUTION: The identification information of the file 11 having data M
is inputted to a file identification information input part 101 and the
data M is read by a file reading part 105. The read data is enciphered to a
cryptogram (c) by a shared cryptographic key of a ciphering part 106 using
an individual key (k) inputted by an individual key 102 and made (c)=Ek(M).
Ek(M) means that M is enciphered by the key (k) using a supplying
cryptographic key. At the **same** **time** , the individual key (k) is
converted into key information lk by an open key (e) inputted by an open
key input part 103 using a key information generation part 104 and made
lk=E(e, k). E(e, **k**) **means** that the (k) is enciphered by the open key
(e) using the open cryptographic key. Then, the key information lk is added
to the cryptogram (c) using an individual key information adding part 107
and a cryptographic file 12 is generated.

15/5/22 **(Item 22 from file: 347)**
DIALOG(R)File 347:JAPIO ,
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03747288 **Image available**
STRAIGHT LINE PLOTTING DEVICE

PUB. NO.: 04-112388 [JP 4112388 A]
PUBLISHED: April 14, 1992 (19920414)
INVENTOR(s): SUZUKI HIROYUKI
APPLICANT(s): FUJI ELECTRIC CO LTD [000523] (A Japanese Company or
Corporation), JP (Japan)
FUJI FACOM CORP [470926] (A Japanese Company or Corporation),
JP (Japan)
APPL. NO.: 02-233040 [JP 90233040]
FILED: September 03, 1990 (19900903)
INTL CLASS: [5] **G06F-015/72** ; G09G-005/20
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 44.9
(COMMUNICATION -- Other)
JOURNAL: Section: P, Section No. 1397, Vol. 16, No. 365, Pg. 58,
August 06, 1992 (19920806)

ABSTRACT
PURPOSE: To execute the plotting at a higher speed by selecting two pieces
of small blocks by following the straight line generating direction so that
the parallel plotting processing can be executed.

CONSTITUTION: A **boundary** and oblique **movement** deciding means 42, a
memory control means 43, a memory address generating means 44, a plotting
block selecting means 45, and block data arithmetic parts 46, 47 are used,
and when a parallel plotting condition is formed between that which
corresponds to order of plotting of small blocks arranged along a straight
line of a plotting object and the small block of the next order, plotting
data of these two small blocks are stored (that is, plotted in parallel)
simultaneously in an image memory 3, and on the other hand, unless its
condition is formed, only the plotting data of the small block
corresponding to order of plotting is plotted singly in the image memory 3.
Therefore, each small block plotted in parallel is connected to any of
upper, lower, or left and right ones in accordance with a state. In such a

way, the number of times of an access to the image memory at the time of plotting a straight line is reduced.

15/5/23 **(Item 23 from file: 347)**
DIALOG(R)File 347:JAPIO
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03606751   **Image available**
DATA ACCESS CONTROL SYSTEM

PUB. NO.:   03-269651 [JP 3269651 A]
PUBLISHED: December 02, 1991 (19911202)
INVENTOR(s):   WATABE TORU
               NODA TAKAHITO
               KAMISAKA YUJI
               NONOMURA KAZUYASU
               MARUYAMA TAKUMI
               TAKENO TAKUMI
               KATO SHINYA
APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP
               (Japan)
APPL. NO.:   02-069397 [JP 9069397]
FILED: March 19, 1990 (19900319)
INTL CLASS: [5] **G06F-012/04**
JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units)
JOURNAL: Section: P, Section No. 1319, Vol. 16, No. 85, Pg. 112,
               February 28, 1992 (19920228)
                              ABSTRACT

PURPOSE: To attain a read access regardless of a **boundary** by setting the first address of the access data to an address register and the byte length of the access data to a counter respectively.

CONSTITUTION: The initial data are set to a read counter 4 and a read address register 6 with an instruction of a control circuit 3. Then the register 6 is updated to the value of the next bus **boundary** by an **updating** circuit 7 every time a read access is carried out with an instruction of the circuit 3. At the **same time** , the byte number of the read data is set to the counter 4. Then the byte number updated by that of the next bus **boundary** via an RC updating circuit 5 is set to the counter 4 every time a read access is carried out with the address of the register 6. However 0 is set to the counter 4 if the output of the circuit 5 is less than 0. Thus the value of the counter 4 is not reduced down to 0 or less and stopped at 0. When the contents of the counter 4 are equal to 0, the read access is suppressed and no updating operation is carried out.

15/5/24 **(Item 24 from file: 347)**
DIALOG(R)File 347:JAPIO
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03450650   **Image available**
VIRTUAL STORAGE CONTROL SYSTEM AND COMPUTER SYSTEM

PUB. NO.:   03-113550 [JP 3113550 A]
PUBLISHED: May 14, 1991 (19910514)
INVENTOR(s):   SAITO MASAHIKO
               YAMAGUCHI SHINICHIRO
               KAMIWAKI TADASHI
               KOBAYASHI YOSHIKI
               NAKAMURA TOMOAKI
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP
               (Japan)
APPL. NO.:   01-250531 [JP 89250531]
FILED: September 28, 1989 (19890928)
INTL CLASS: [5] **G06F-012/08**
JAPIO CLASS: 45.2 (INFORMATION PROCESSING -- Memory Units)
JOURNAL: Section: P, Section No. 1237, Vol. 15, No. 316, Pg. 43,

ABSTRACT
PURPOSE: To attain the flexible stack control by dividing a virtual space into plural basic areas (user pages) and allocating the areas of virtual spaces to the stacks for each user page.

CONSTITUTION: An overflow detection means 91 and an underflow detection means 92 refer to the reference inhibition areas formed at both ends or a single end of a user page or monitor whether a stack button **moved** over the **boundary** of the user page or not. Thus both means 91 and 92 detect the overflow and the underflow of a stack. At the **same** **time** , a user page allocating means 93 retrieves an unused user page and allocates this page to the stack. Then a user page opening means 94 opens the unused pages as the unused user pages. As a result, the stack size can be dynamically changed.

15/5/25 **(Item 25 from file: 347)**
DIALOG(R)File 347:JAPIO
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03421735 **Image available**
PROGRAM PARALLEL CONVERSION SYSTEM AND DEVICE USING THE SYSTEM

ABSTRACT
PURPOSE: To obtain the parallel programs having various loop structures with no conflict in a systematic method by **moving** the loop **boundary** via a loop processing function during the program parallel conversion and setting each **boundary** at a position where no conflict is produced.

CONSTITUTION: A **parallel** **processing** function includes a loop section recognizing function 12 which produces the loop information 13 based on the state of a parallel subject program 9, a loop evolving function 14, a loop section moving function 15, an instruction collecting/converting function 16 which collects N pieces of instructions to produce an arithmetic instruction for parallel actions and an output instruction, an instruction collecting/converting rule 17, and a **parallel** **process** execution control function 11. Then the intra-loop step number is set at an integer multiple of the number of processors with a loop processing function applied during a program parallel conversion process. At the **same** **time** , the instructions are collected for each number of processors and a parallel conversion process is carried out after **moving** the loop **boundary** to a position where no conflict is produced. Thus it is possible to produce the parallel programs having various loop structures with no conflict in a systematic method.

15/5/26 **(Item 26 from file: 347)**
DIALOG(R)File 347:JAPIO
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03415916 **Image available**

MOUSE INPUT SYSTEM

ABSTRACT

PURPOSE: To improve the operability of a mouse by providing a function
which enables a cursor to move around between the upper and lower ends and
the right and left ends of a movable area of a display screen.

CONSTITUTION: A mouse input device 1 transmits the electric signals to a
mouse control part 2 in accordance with its moving variable. When the part
2 starts its action, a cursor around-movement switch is turned on or off in
response to an application or non-application state of an around-movement
function of a mouse cursor. When a signal is received from the device 1,
the cursor is **moved** over the **boundary** of a movable area of the mouse
cursor. At the **same** **time** , the cursor is moved to the opposite **boundary**
, then **moved** more in accordance with the moving variable of the mouse. As
a result, the mouse cursor can be instantaneously moved round to one of
both ends of the movable are from the other end. Then the operation of the
mouse is facilitated.

15/5/27   (Item 27 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2003 JPO & JAPIO. All rts. reserv.

02687484   **Image available**
PICTURE RESTRICTING COLOR DISPLAY DEVICE

ABSTRACT

PURPOSE: To select the restricted number of colors from an inputted image
with the small consumption of a memory by forming a **cluster** specification
art and a histogram forming part, and **simultaneously** executing histogram
formation and **clustering** .
CONSTITUTION: When an image to be displayed is inputted to an image input
part 11, the **cluster** specification part 12 specifies the neighboring area
of picture element data in a color space around the data as a **cluster** .
The histogram forming part 13 **updates** the frequency of the **center** color
of the **cluster** to which the picture element data belong to form a
histogram. A similar color is **clustered** by the specification part 12 and
the histogram increasing only the appearing frequency of the center colors
of respective **clusters** is obtained from the formation part 13. Even if
colors having high appearance frequency in the histogram are successively

selected by a look-up table setting part 14, selection of only similar colors can be prevented.

15/5/28   **(Item 28 from file: 347)**

02681603   **Image available**
PROGRAMMABLE CONTROLLER HAVING DATA TRACE/TRACE DATA DISPLAY FUNCTION

ABSTRACT
PURPOSE: To read data at an arbitrary time by separating a CPU for tracing
the data from a CPU for reading the traced data, temporarily storing the
traced data of a buffer memory in other buffer memory, thereafter, reading
and displaying on display device.

CONSTITUTION: The buffer memory 3 is constituted in a ring form, the oldest
data is replaced by the newest data and at this time, the CPU 1
simultaneously **updates** the newest **data** **pointer** 6 indicating the
address of the newest data. The user of a data trace function outputs the
reading request of the data traced on the CPU 2 by the display device 5 at
the arbitrary time. On receiving this, the CPU 2 refers to the newest **data**
pointer 6 to read the data of (m) in the number from the newest data
D(sub n)-D(sub n-m-1) and store in buffer memory 4. The CPU 2 transmits the
contents of the buffer memory 4 to the display device 5 to display the
data. Thereby, the user can fetch the traced data at the arbitrary time.

15/5/29   **(Item 29 from file: 347)**

02443860   **Image available**
ELECTRONIC EQUIPMENT

ABSTRACT
PURPOSE: To cope with the great variety of document sizes, by a method

wherein equipment is ⬤ected to continuously print a⬤red ruled line pattern by a printing means and this action is stopped when the continuous printing of the ruled line pattern is conducted.

CONSTITUTION: A ruled line pattern is taken from a CG 7 by the pressing of a start key 5 on a keyboard 3. The taken ruled line pattern is printed on a position shown by a position counter 10, and **simultaneously** the position counter 10 is **updated** to the **data pointing** a next printing position. Here, if a stop key is operated, a printer 2 stops printing and then the printing of the ruled line is stopped; the operation flow goes out of this control routine. In this manner, ruled lines suitable for the size, format, etc. of documents and papers can be freely printed.

15/5/30 **(Item 30 from file: 347)**

01612747 **Image available**
CRYSTAL AZIMUTH ANALYZING METHOD AND ITS APPARATUS

ABSTRACT

PURPOSE: To accelerate the speed of analysis, by detecting a crystal particle from the recorded image of a scanning signal of a specimen by a scanning type electronic microscope and recording the same by image treatment while allowing electron beam to scan the crystal particle at a predetermined position to calculate the azimuth thereof.

CONSTITUTION: The image of a specimen 7 by a scanning type electronic microscope 1 with an ECP apparatus 10 is recorded to a memory 3 to develop the same by a display apparatus 5 and converted to an image of only a particle **boundary** constituting the crystal particle by an image processing apparatus 4 while coding and **calculation** of **center** coordinates are performed with respect to each crystal particle judged in a predetermined manner to be recorded to a memory 9. In the next step, the image number of the crystal particle to be measured is inputted from an operation control apparatus 6 and the specimen 7 is **moved** so as to coincide the **center** point of the crystal particle with an ECP measuring condition and the ECP image is displayed by the apparatus 2 through the apparatus 5. At the **same time**, the crystal azimuth guided to the apparatus 6 and analyzed thereby is recorded to the memory 9 along with the crystal particle number and the same operation is performed to all crystal particles.

```
Set     Items   Description
S1       1336   KMEAN? OR K()MEAN? ?
S2     617433   CENTROID? OR CENTER? OR CENTRAL? OR MEDIAN? OR MIDPOINT? OR
                MID()POINT? OR MIDDLE?
S3     288826   CLUSTER? OR MATRIX? OR PARTITION? OR DATA()POINT? OR BOUND-
                AR?
S4     504502   PARALLEL()PROCESS? OR CONCUR? OR CO()OCCUR? OR COOCCUR? OR
                SIMULTAN? OR SAME()TIME?
S5     578184   MOVE? OR REALIGN? OR REASSIGN? OR REDESIGNAT? OR MOVING OR
                UPDAT? OR UP()(DATE? OR DATING?)
S6        784   S1 AND S4
S7         44   S2(5N)S5 (10N) S3 (10N) S4
S8         20   S7 AND IC=G06F?
S9         13   S2 (5N) S5 (10N) S3 (10N) S4 (10N) (ALGORITHM? OR FORMULA?
                OR STATISTICAL()METHOD? OR CALCULATION?)
S10      7564   (CLUSTER? OR GROUP? OR DATAPOINT? OR DATA()POINT? OR BOUND-
                AR?)(2N)S5
S11        54   S10 (10N) S3 (10N) S4
S12        12   S11 AND IC=G06F?
S13       842   S6 OR S7 OR S8 OR S9 OR S12
S14         7   S1(10N)S4
S15         1   S14 AND IC=G06F?
S16         8   S1(S)S4 AND IC=G06F?
S17       102   (S7 OR S8 OR S9 OR S11 OR S12)
S18         6   S17 AND IC=G06F-017?
S19        20   S18 OR S14 OR S16
S20        20   IDPAT (sorted in duplicate/non-duplicate order)
S21        20   IDPAT (primary/non-duplicate records only)
File 348:EUROPEAN PATENTS 1978-2003/Feb W03
        (c) 2003 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20030220,UT=20030213
        (c) 2003 WIPO/Univentio
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01248133
METHOD FOR DETERMINING SOFTWARE AND PROCESSOR
METHODE ZUR SOFTWARE- UND PROZESSORERKENNUNG
PROC D PERMETTANT DE D TERMINER UN LOGICIEL ET UN PROCESSEUR
PATENT ASSIGNEE:
   The Institute of Computer Based Software Methodology and Technology,
      (2822471), 11-3, Takanawa 3-chome, Minatu-ku, Tokyo 108-0074, (JP),
      (Applicant designated States: all)
   Information System Development Institute, (2625771), 3-11-3, Takanawa
      Minato-ku, Tokyo 108-0074, (JP), (Applicant designated States: all)
INVENTOR:
   NEGORO, Fumio, 967-64, Juniso, Kamakura-shi, Kanagawa 248-0001, (JP)
LEGAL REPRESENTATIVE:
   Midgley, Jonathan Lee (85971), Marks & Clerk 57-60 Lincoln's Inn Fields,
      GB-London WC2A 3LS, (GB)
PATENT (CC, No, Kind, Date): EP 1244006 A1   020925 (Basic)
                              WO 2000079385   001228
APPLICATION (CC, No, Date):   EP 2000939103 000620; WO 2000JP4008 000620
PRIORITY (CC, No, Date): JP 99174730 990621
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
   LU; MC; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: **G06F-009/06** ; **G06F-009/44**
CITED PATENTS (WO A): XP 2935464   ; XP 2935465   ; XP 2935466   ; XP
   2935467   ; XP 2935468
CITED REFERENCES (WO A):
   US 5564053 A
   JP 5327872 A
   WO 9716784 A1
   WO 9819232 A1
   JP 5088863 A
   WO 9949387 A1
   'Heiretsu machine kaihatsu no genjou' JOHO SHORI vol. 28, no. 1, 15
      January 1987, (TOKYO), pages 10 - 18, XP002935464
   NIKKEI BP K.K.: 'Jurai no software kaihatsu hoho wo kutsugaesu LYEE to wa
      nanika' NIKKEI COMPUTER vol. 441, 13 April 1998, pages 64 - 66,
      XP002935465
   NIKKEI BP K.K.: 'LYEE ni yotte gekiteki ni henka suru kaihatsu koutei'
      NIKKEI COMPUTER no. 444, 25 May 1998, (TOKYO), pages 112 - 114,
      XP002935466
   NIKKEI BP K.K.: 'LYEE ni yoru kaihatsu no jissai to riyou no kokorogamae'
      NIKKEI COMPUTER vol. 446, 22 June 1998, (TOKYO), pages 134 - 137,
      XP002935467
   NIKKEI BP K.K.: 'Soft kaihatsu de gekitekina nouritsusei wo soushutsu
      suru shikouhou LYEE riron no ittan wo kaiji suru' NIKKEI COMPUTER vol.
      448, 20 July 1998, (TOKYO), pages 128 - 131, XP002935468;

ABSTRACT EP 1244006 A1
   By deleting logic from the software development work, making
operational process logic unnecessary, obtaining requirements and
software at the same time, and for providing a revolutionary solution to
the problem concerned with traditional software, a desired software and
its requirement is decided by solving the Scenario Function that is a
theoretical conclusion of Logical Atomism. Specifically, the Definitive
such as Screen, File et al is defined and the Homogeneity Map is created
as well, in which the three components of the Scenario Function, i.e.,
W02, W03 and W04 Pallets are placed in accordance with a rule in which
semantic quality embodies linearly. Thereafter, the Tense Control Vector
with a prescribed structure to determine the semantic quality for every
word is made into program for every word belonging to the Definitive.
Characteristics of specific work are reflected in the Self Creation logic
contained in the Tense Control Vector. By operating programs obtained in
this manner in accordance with a rule of the Synchronous Structure, the
business operational requirements are satisfied

ABSTRACT WORD COUNT: 170
NOTE:
   Figure number on first page: 25

LEGAL STATUS (Type, Pub Date, Kind, Text):
 Application: 010228 A1 International application. (Art. 158(1))
 Application: 010228 A1 International application entering European
                             phase
 Application: 020925 A1 Published application with search report
 Examination: 020925 A1 Date of request for examination: 20020118
LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:
Available Text   Language   Update   Word Count
     CLAIMS A   (English)   200239   38545
     SPEC A   (English)   200239   178863
Total word count - document A   217408
Total word count - document B   0
Total word count - documents A + B   217408

   21/5/2   (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01110765
Medical information processing system for supporting diagnosis
System zur Verarbeitung von medizinischen Daten zur Unterstutzung der
   Diagnose
Systeme de traitement d'informations medicales pour assistance diagnostique
PATENT ASSIGNEE:
   KABUSHIKI KAISHA TOSHIBA, (213130), 72, Horikawa-cho, Saiwai-ku,
      Kawasaki-shi, Kanagawa-ken 210-8572, (JP), (Applicant designated
      States: all)
INVENTOR:
   Taguchi, Katsuyuki, 3-145-63, Minamigouya, Nishinasuno-machi, Nasugun,
      Tochigi-ken, (JP)
   Yamada, Shinichi, 5-20-14, Midori, Minamikawachi-machi, Kawachi-gun,
      Tochigi-ken, (JP)
   Ema, Takehiro, 2-6-5, Shiroyama, Ootawara-shi, Tochigi-ken, (JP)
LEGAL REPRESENTATIVE:
   Blumbach, Kramer & Partner GbR (101302), Radeckestrasse 43, 81245 Munchen
      , (DE)
PATENT (CC, No, Kind, Date): EP 973116 A1 000119 (Basic)
APPLICATION (CC, No, Date):   EP 99119619 940228;
PRIORITY (CC, No, Date): JP 9339996 930301; JP 9348366 930309; JP 9384296
      930412; JP 93177859 930719; JP 93178934 930720; JP 93182319 930723
DESIGNATED STATES: DE; NL
RELATED PARENT NUMBER(S) - PN (AN):
   EP 616290 (EP 94102996)
INTERNATIONAL PATENT CLASS: **G06F-019/00**

ABSTRACT EP 973116 A1
   A medical information processing system for supporting diagnosis,
   capable of displaying an original image and a minified image over the
   original image without being interfered to each other, capable of optimal
   man-power & time saving configurations and methods, capable of realizing
   an optimal classifying technique for doctor's interpretation and
   CAD-processed result, and capable of optimizing efficiency in forming
   accurate interpretation report by using PACS in a mass survey. The system
   includes: a detecting unit for detecting location of abnormality from a
   first medical image in accordance with a predetermined algorithm: an
   image forming unit for forming a second medical image in which a marker
   indicating the location of the abnormality is overlapped; and a display
   unit for displaying the first medical image and the second medical image
   in an optimally efficient way.
ABSTRACT WORD COUNT: 133
NOTE:
   Figure number on first page: 9

LEGAL STATUS (Type, Pub Date, Kind, Text):
 Change: 000621 A1 Inventor information changed: 20000502
 Application: 20000119 A1 Published application with search report
 Examination: 20000119 A1 Date of request for examination: 19991004
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
      CLAIMS A (English) 200003   118
      SPEC A   (English) 200003   66430
Total word count - document A   66548
Total word count - document B   0
Total word count - documents A + B   66548

 21/5/3   (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2003 European Patent Office. All rts. reserv.

00996862
Start code detecting apparatus for video data stream
Vorrichtung zur Startkodedetektierung fur Videodatenstrom
Appareil de detection de code de depart pour un flux de donnees video
PATENT ASSIGNEE:
  Discovision Associates, (260275), 2355 Main Street, Suite 200, Irvine, CA
     92614, (US), (Applicant designated States: all)
INVENTOR:
  Wise, Adrian Philip, 10 Westbourne Cottages, Frenchay, Bristol BS16 1NA,
     (GB)
  Sotheran, Martin William, The Ridings, WickLane Stinchcombe, Dursley,
     Gloucestershire G11 6BD, (GB)
  Robbins, William Philip, 19 Springhill, Cam, Gloucestershire GL11 5PE,
     (GB)
  Finch, Helen Rosemary, Tyley, Coombe, Wotton-under-edge, Gloucester GL12
     7ND, (GB)
  Boyd, Kevin James, 21 Lancashire Road, Bristol BS7 9DL, (GB)
LEGAL REPRESENTATIVE:
  Cabinet Hirsch (101611), 34, Rue de Bassano, 75008 Paris, (FR)
PATENT (CC, No, Kind, Date): EP 901287 A2 990310 (Basic)
                              EP 901287 A3 990922
APPLICATION (CC, No, Date):   EP 98202166 950228;
PRIORITY (CC, No, Date): GB 9405914 940324
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IE; IT; LI; NL
RELATED PARENT NUMBER(S) - PN (AN):
  EP 674443 (EP 95301301)
INTERNATIONAL PATENT CLASS: H04N-007/24; **G06F-013/00 ; G06F-009/38**

ABSTRACT EP 901287 A2
    A system having a plurality of processing stages, comprising a
  universal adaptation unit in the form of an interactive interfacing token
  for control and/or data functions among said processing stages,

   wherein said token is a CODING(underscore)STANDARD token for
  conditioning said system for processing in a selected one of a plurality
  of picture compression/ decompression standards; one of said processing
  stages being a Huffman decoder and parser; one of said control tokens
  being a CODING(underscore)STANDARD control token; and upon receipt of
  said CODING(underscore)STANDARD control token, said parser is reset to an
  address location corresponding to the location of a program for handling
  the picture standard identified by said CODING(underscore)STANDARD
  control token.
ABSTRACT WORD COUNT: 112
NOTE:
  Figure number on first page: 61

LEGAL STATUS (Type, Pub Date, Kind, Text):
 Change: 021023 A2 Legal representative(s) changed 20020830
 Application: 990310 A2 Published application (A1with Search Report

● ;A2without Search Report) ●

Examination: 990310 A2 Date of filing of request for examination:
                    980629
Search Report: 990922 A3 Separate publication of the search report
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
      CLAIMS A (English) 9910   191
      SPEC A   (English) 9910   126718
Total word count - document A   126909
Total word count - document B   0
Total word count - documents A + B   126909

21/5/4   (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00996861
Multistandard decoder for Huffman codes
Mehrnormendekodierer fur Huffmancodes
Decodeur multistandard de codes de Huffman
PATENT ASSIGNEE:
  Discovision Associates, (260275), 2355 Main Street, Suite 200, Irvine, CA
    92614, (US), (applicant designated states:
    AT;BE;CH;DE;FR;GB;IE;IT;LI;NL)
INVENTOR:
  Wise, Adrian Philip, 10 Westbourne Cottages, Frenchhay, Bristol BS16 1NA,
    (GB)
  Sotheran, Martin William, The Riddin gs, Wick Lane Stinchcombe, Dursley,
    GLoucestershire GL11 6BD, (GB)
  Robbins, William Philip, 19 Sprin ghill, Cam, Gloucestershire GL11 5PE,
    (GB)
  Finch, Helen Rosemary, Tyley,Coombe, Wotton-Under-Edge, Gloucester GL12
    7ND, (GB)
  Boyd, Kevin James, 21 Lancashire Road, Bristol BS7 9DL, (GB)
LEGAL REPRESENTATIVE:
  Vuillermoz, Bruno et al (72791), Cabinet Laurent & Charras B.P. 32 20,
    rue Louis Chirpaz, 69131 Ecully Cedex, (FR)
PATENT (CC, No, Kind, Date): EP 901286 A1 990310 (Basic)
APPLICATION (CC, No, Date):   EP 98202135 950228;
PRIORITY (CC, No, Date): GB 9405914 940324
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IE; IT; LI; NL
RELATED PARENT NUMBER(S) - PN (AN):
  EP 674443 (EP 953013018)
INTERNATIONAL PATENT CLASS: H04N-007/24; **G06F-013/00 ; G06F-009/38**

ABSTRACT EP 901286 A1
  A Huffman decoder for decoding data words encoded according to the
  Huffman coding provisions of either H.261 or MPEG standards, the data
  words including an identifier that identifies the Huffman code standard
  under which the data words were coded, comprising :
    means for receiving the Huffman coded data words, including means for
  reading the identifier to determine which standard governed the Huffman
  coding of the received data words, and means for converting the data
  words to JPEG Huffman coded data words, if necessary, in response to
  reading the identifier that identifies the Huffman coded data words as
  H.261 or MPEG Huffman coded ;

  means, operably connected to the Huffman coded data words receiving
  means, for generating an index number associated with each JPEG Huffman
  coded data word receiving an index number from the index number
  generating means, and including an output that is a decoded data word
  corresponding to the index number.
ABSTRACT WORD COUNT: 155

LEGAL STATUS (Type, Pub Date, Kind, Text):
  Application: 990310 A1 Published application (A1with Search Report

21/5/5   (Item 5 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2003 European Patent Office. All rts. reserv.

00780988
Fuel metering control system for internal combustion engine
Kraftstoffmesssteuerungssystem fur eine Brennkraftmaschine
Systeme de commande du dosage de carburant pour moteur a combustion interne
PATENT ASSIGNEE:
  HONDA GIKEN KOGYO KABUSHIKI KAISHA, (2060610), 1-1, Minami-Aoyama 2-chome
    , Minato-ku Tokyo, (JP), (Proprietor designated states: all)
INVENTOR:
  Maki, Hidetaka, c/o K.K. Honda Gijyutsu Kenkyusho, 4-1, 1-chome, Chuo,
    Wako-shi, Saitama, (JP)
  Akazaki, Shusuke, c/o K.K Honda Gijyutsu Kenkyusho, 4-1, 1-chome, Chuo,
    Wako-shi, Saitama, (JP)
  Hasegawa, Yusuke, c/o K.K Honda Gijyutsu Kenkyusho, 4-1, 1-chome, Chuo,
    Wako-shi, Saitama, (JP)
  Komoriya, Isao, c/o K.K. Honda Gijyutsu Kenkyusho, 4-1, 1-chome, Chuo,
    Wako-shi, Saitama, (JP)
LEGAL REPRESENTATIVE:
  Tomlinson, Kerry John (36771), Frank B. Dehn & Co., European Patent
    Attorneys, 179 Queen Victoria Street, London EC4V 4EL, (GB)
PATENT (CC, No, Kind, Date):   EP 728929   A2   960828 (Basic)
                               EP 728929   A3   990616
                               EP 728929   B1   021211
APPLICATION (CC, No, Date):   EP 96301284 960226;
PRIORITY (CC, No, Date): JP 9561663 950225
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: F02D-041/14; F02D-041/34
CITED PATENTS (EP B): EP 553570 A; EP 670420 A; EP 697512 A; DE 4339170 A;
  DE 4422072 A; US 5715796 A

ABSTRACT EP 728929 A2
    A system for controlling fuel metering for an internal combustion
    engine provided with a first feedback loop that calculates a first
    feedback correction coefficient using an adaptive control law to correct
    a quantity of fuel injection such that a detected air/fuel ratio is
    brought to a desired air/fuel ratio, a second feedback loop that
    calculates a second coefficient using a PID control law to similarly
    correct the quantity of fuel injection, and a third feedback loop that
    calculates a third coefficient using a PID controller to correct the
    quantity of fuel injection such that air/fuel ratio variance among the
    cylinders decreases. Either of the first or second coefficient is
    selected and based on the selected coefficient, the feedback gains of
    the third feedback loop are determined (S24, S26). (see image in
    original document)
ABSTRACT WORD COUNT: 154
NOTE:
  Figure number on first page: 4

LEGAL STATUS (Type, Pub Date, Kind, Text):
  Examination: 020410 A2 Date of dispatch of the first examination

Application: 960828 A2 Published application (A1with Search Report
                                ;A2without Search Report)
Grant: 021211 B1 Granted patent
Search Report: 990616 A3 Separate publication of the European or
                                International search report
Change: 990616 A2 Obligatory supplementary classification
                                (change)
Examination: 990901 A2 Date of request for examination: 19990706
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	785
CLAIMS B	(English)	200250	786
CLAIMS B	(German)	200250	649
CLAIMS B	(French)	200250	1011
SPEC A	(English)	EPAB96	9881
SPEC B	(English)	200250	9746
Total word count - document A			10667
Total word count - document B			12192
Total word count - documents A + B			22859

21/5/6   (Item 6 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00773090
**Relational database system and method with high data availability during
     table data restructuring**
**Relationales Datenbanksystem und Verfahren mit grosser Verfugbarkeit der
     Daten bei der Umstrukturierung von Tabellendaten**
**Systeme de gestion de base de donnees relationnelle et procede avec grande
     disponibilite de donnees pendant la restructuration de tables**
PATENT ASSIGNEE:
  Compaq Computer Corporation, (687790), 20555 S.H. 249, Houston, Texas
     77070-2698, (US), (Proprietor designated states: all)
INVENTOR:
  Maier, Donald S., 2251 Middletown Drive, Campbell, California 95008, (US)
  Marton, Roberta S., 48276 Cottonwood Street, Fremont, California 94539,
     (US)
  Troisi, James H., 837 Orange Avenue, Sunnyvale, California 94087, (US)
  Celis, Pedro, (NMI), 6607 Rain Creek Parkway, Austin, Texas 78759-6123,
     (US)
LEGAL REPRESENTATIVE:
  Cross, Rupert Edward Blount et al (42891), BOULT WADE TENNANT, Verulam
     Gardens 70 Gray's Inn Road, London WC1X 8BT, (GB)
PATENT (CC, No, Kind, Date):   EP 723238 A1   960724 (Basic)
                               EP 723238 B1   010919
APPLICATION (CC, No, Date):   EP 96300429 960123;
PRIORITY (CC, No, Date): US 377758 950123
DESIGNATED STATES: DE; FR; GB; IT; SE
INTERNATIONAL PATENT CLASS: **G06F-017/30**
CITED PATENTS (EP B): EP 306197 A; EP 560543 A
CITED REFERENCES (EP B):
  INTELLECTUAL LEVERAGE, SAN FRANCISCO, FEB. 25 - MAR. 1, 1991, no. CONF.
     36, 25 February 1991, INSTITUTE OF ELECTRICAL AND ELECTRONICS
     ENGINEERS, pages 105-109, XP000293859 LESLIE H: "OPTIMIZING PARALLEL
     QUERY PLANS AND EXECUTION";

ABSTRACT EP 723238 A1
     A database computer system includes memory, residing in a plurality of
  interconnected computer nodes, for storing database tables. Each database
  table has a plurality of columns, a primary key index based on a
  specified subset of the columns, and an associated table schema. At
  least a subset of the database tables are partitioned into a plurality
  of partitions, each partition storing records having primary key values
  in a primary key range distinct from the other partitions. A transaction

manager generates and stores an audit trail, each audit entry denoting a
database table record event, such as an addition, deletion or alteration
of a specified database table record in a specified one of said database
tables. Four online data definition procedures allow the structure of a
database table to be altered while the database table remains available
to execution of transactions, with minimal impact of the availability of
the database table for transaction execution. The four online data
definition procedures are a move partition procedure, a split partition
procedure, a move partition boundary procedure, and a create new index
procedure. Each of these online procedures has three or four phases of
execution. In a first phase, records of a table partition or the entire
table are accessed using read only access, so as to generate a new
partition, move records between two partitions, or to create a new
index. In a second phase, audit trail entries are used to clean up the
data structures created during the first phase. In a third phase, access
to the database table is briefly locked while audit trail entries
created after the second phase are used to make final changes to the
data structures created during the first phase, and while the database
table schema is updated to reflect the changes to the database table
produced. (see image in original document)
ABSTRACT WORD COUNT: 338
NOTE:
 Figure number on first page: 1
LEGAL STATUS (Type, Pub Date, Kind, Text):
 Change: 000823 A1 Title of invention (German) changed: 20000706
 Examination: 20000112 A1 Date of dispatch of the first examination
                              report: 19991129
 Oppn None: 020911 B1 No opposition filed: 20020620
 Change: 001129 A1 Legal representative(s) changed 20001011
 Assignee: 001129 A1 Transfer of rights to new applicant: Compaq
                              Computer Corporation (687790) 20555 S.H. 249
                              Houston, Texas 77070-2698 US
 Change: 000823 A1 Title of invention (French) changed: 20000706
 Change: 001004 A1 Title of invention (German) changed: 20000811
 Change: 001004 A1 Title of invention (French) changed: 20000811
 Grant: 010919 B1 Granted patent
 Application: 960724 A1 Published application (A1with Search Report
                              ;A2without Search Report)
 Examination: 970312 A1 Date of filing of request for examination:
                              970108
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	1030
CLAIMS B	(English)	200138	2545
CLAIMS B	(German)	200138	2415
CLAIMS B	(French)	200138	3253
SPEC A	(English)	EPAB96	7503
SPEC B	(English)	200138	7708
Total word count - document A			8534
Total word count - document B			15921
Total word count - documents A + B			24455

 21/5/7   (Item 7 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2003 European Patent Office. All rts. reserv.

00243203
**Method for realizing high-speed statistic operation processing and image
    data processing apparatus for embodying the method.**
**Verfahren zur statischen Operationsverarbeitung mit Hochgeschwindigkeit und
    dieses Verfahren umfassendes Bilddatenverebitungsgerat.**
**Methode pour realiser un traitement d'une operation statistique a haute
    vitesse et appareil de traitement de donnees d'image incorporant cette
    methode.**
PATENT ASSIGNEE:
 KABUSHIKI KAISHA TOSHIBA, (213130), 72, Horikawa-cho Saiwai-ku,

Kawasaki-shi Kanagawa ●en 210, (JP), (applicant design●ed states:
    DE;FR;GB)
INVENTOR:
  Kasano, Akira c/o Patent Division, Kabushiki Kaisha Toshiba 1-1 Shibaura
    1-chome, Minato-ku Tokyo 105, (JP)
LEGAL REPRESENTATIVE:
  Henkel, Feiler, Hanzel & Partner (100401), Mohlstrasse 37, D-81675
    Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 249922 A2 871223 (Basic)
                              EP 249922 A3 910424
                              EP 249922 B1 930901
APPLICATION (CC, No, Date):   EP 87108608 870615;
PRIORITY (CC, No, Date): JP 86139815 860616
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: **G06F-015/68** ; **G06F-015/31**
CITED PATENTS (EP A): US 4228421 A; FR 2293011 A
CITED REFERENCES (EP A):
  PATENT ABSTRACTS OF JAPAN, vol. 10, no. 312 (P-509) 2368 , 23rd October
    1986; & JP-A-61 123 986 (FUJITSU LTD) 11-06-1986;

ABSTRACT EP 249922 A2
    According to this invention, in image data A and B which are
respectively constituted by pixel groups $(\Sigma)A(\mathrm{sub}(ij))$ and $(\Sigma)B(\mathrm{sub}(ij))$ consisting of N pixels $A(\mathrm{sub}(ij))$ and $B(\mathrm{sub}(ij))$ (N is a
positive integer; i and j respectively indicate a row position and a
column position), and in which density data $A(\mathrm{sub}(dij))$ and $B(\mathrm{sub}(dij))$
of the pixels are expressed by n(2m)-bit data (n and m are positive
integers), designated 2m-bit portion $a(\mathrm{sub}(ij))$ of each density data $A(\mathrm{sub}(dij))$ of image data A is divided into upper m-bit portion $a(\mathrm{sub}(Uij))$ and lower m-bit portion $a(\mathrm{sub}(Lij))$. A histogram processor
(16) calculates $(\Sigma)a(\mathrm{sub}(ij))*b(\mathrm{sub}(ij))$ between 2m-bit portions $a(\mathrm{sub}(ij))$ and $b(\mathrm{sub}(ij))$ using a histogram obtained by the upper or lower
m-bit portion $a(\mathrm{sub}(Uij))$ or $a(\mathrm{sub}(Lij))$ and designated 2m-bit portion
$b(\mathrm{sub}(ij))$ of each density data $B(\mathrm{sub}(dij))$ of pixel group $(\Sigma)B(\mathrm{sub}(ij))$. An average can also be calculated by a calculation section (32)
using the histogram. Therefore, a covariance can be calculated at high
speed.
ABSTRACT WORD COUNT: 177

LEGAL STATUS (Type, Pub Date, Kind, Text):
 Application: 871223 A2 Published application (A1with Search Report
                              ;A2without Search Report)
 Examination: 871223 A2 Date of filing of request for examination:
                              870710
 Search Report: 910424 A3 Separate publication of the European or
                              International search report
 Examination: 930303 A2 Date of despatch of first examination report:
                              930118
 Grant: 930901 B1 Granted patent
 Oppn None: 940824 B1 No opposition filed
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
     CLAIMS B (English)   EPBBF1   3938
     CLAIMS B (German)   EPBBF1   2762
     CLAIMS B (French)   EPBBF1   4062
     SPEC B   (English)   EPBBF1   6308
Total word count - document A   0
Total word count - document B   17070
Total word count - documents A + B   17070

 21/5/8   (Item 8 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2003 European Patent Office. All rts. reserv.

00243004
Silver halide photographic material.

Photographisches Silberha●genidmaterial.
Materiau photographique a l'halogenure d'argent.
PATENT ASSIGNEE:
  FUJI PHOTO FILM CO., LTD., (202400), 210 Nakanuma Minami Ashigara-shi,
    Kanagawa 250-01, (JP), (applicant designated states: DE;FR;GB;NL)
INVENTOR:
  Momoki, Yasuhito c/o Fuji Photo Film Co., Ltd., No. 210 Nakanuma, Minami
    Ashigara-shi Kanagawa, (JP)
  Hasebe, Kazunori c/o Fuji Photo Film Co., Ltd., No. 210 Nakanuma, Minami
    Ashigara-shi Kanagawa, (JP)
LEGAL REPRESENTATIVE:
  Patentanwalte Grunecker, Kinkeldey, Stockmair & Partner (100721),
    Maximilianstrasse 58, W-8000 Munchen 22, (DE)
PATENT (CC, No, Kind, Date): EP 248442 A2 871209 (Basic)
                              EP 248442 A3 900404
                              EP 248442 B1 930331
APPLICATION (CC, No, Date):   EP 87108139 870604;
PRIORITY (CC, No, Date): JP 86130739 860605
DESIGNATED STATES: DE; FR; GB; NL
INTERNATIONAL PATENT CLASS: G03C-001/005;
CITED PATENTS (EP A): US 2318597 A; US 2202026 A; DE 3502490 A

ABSTRACT EP 248442 A2
    A photographic light-sensitive material comparing a support having
    thereon at least one silver halide emulateSiO layer, wherein the silver
    halide emulsion layer comprises a silver chlorobromide emulsion which is
    substantially free of iodide and has a chloride content which satisfies
    the following relationship (I) between a mean mole% of silver chloride in
    grain group (A), in which the grains have sizes not less than the median
    size in the grain size distribution, and a mean mole% of silver chloride
    in grain group (B) in which the grains have sizes less than the median
    size, whereby excellent gradation and wide exposure latitude are
    achieved, and there is a small dependence on the development conditions.
    Relationship (I):
        1 </= (Mean mol% of silver chloride in grain group (A))
        -(Mean mol% of silver chloride in grain group (B)) </=99
ABSTRACT WORD COUNT: 140

LEGAL STATUS (Type, Pub Date, Kind, Text):
 Application: 871209 A2 Published application (A1with Search Report
                              ;A2without Search Report)
 Change: 891206 A2 Representative (change)
 Search Report: 900404 A3 Separate publication of the European or
                              International search report
 Examination: 900905 A2 Date of filing of request for examination:
                              900711
 Examination: 911106 A2 Date of despatch of first examination report:
                              910926
 Grant: 930331 B1 Granted patent
 Lapse: 931222 B1 Date of lapse of the European patent in a
                              Contracting State: NL 930331
 Oppn None: 940323 B1 No opposition filed
 Lapse: 940615 B1 Date of lapse of the European patent in a
                              Contracting State: FR 930820, NL 930331
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
     CLAIMS B (English)   EPBBF1   538
     CLAIMS B (German)   EPBBF1   452
     CLAIMS B (French)   EPBBF1   593
     SPEC B   (English)   EPBBF1   7402
Total word count - document A   0
Total word count - document B   8985
Total word count - documents A + B   8985

00165900
Method for the neutralization of an A-zeolite filter cake.
Verfahren zur Neutralisierung des Filterkuchens von Zeolith A.
Procede de neutralisation du gateau de filtre de zeolite A.
PATENT ASSIGNEE:
   ZEOLITE MIRA s.r.l., (1550130), Via della Scienza 11,, I-36050 Sovizzo,
     Vicenza, (IT), (applicant designated states:
     AT;BE;CH;DE;FR;GB;LI;LU;NL;SE)
INVENTOR:
   Nistri, Ugo, Via Coriolano Bozzo 4, I-16030 Pieve Ligure, (IT)
   Colombo, Paolo, Via Avogadro 12, I-21047 Saronno, (IT)
   Da Col, Lino, Via Friuli 3, I-31100 Filea (Treviso), (IT)
LEGAL REPRESENTATIVE:
   Porsia, Attilio et al (51412), c/o Succ. Ing. Fischetti & Weber-Dr.
     Porsia Via Caffaro 3/2, I-16124 Genova, (IT)
PATENT (CC, No, Kind, Date): EP 175090 A1 860326 (Basic)
                               EP 175090 B1 880601
APPLICATION (CC, No, Date): EP 85109177 850722;
PRIORITY (CC, No, Date): IT 8412598 840912
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: C01B-033/34
CITED PATENTS (EP A): FR 2306167 A; FR 2340128 A; DD 132069 A; US 4247527 A

ABSTRACT EP 175090 A1
   The filter press cake, obtained by separation of the raw Zeolite from
the major portion of the mother liquor and not washed, or only partially
washed, is additivated with a suitable surface-active agent, added in the
amount of from 1 to 2% in weight on the weight of the wet Zeolite. The
thus-fluidized Zeolite is treated in a high-turbulence zone with
sulphuric acid at a concentration greater than 70%, which is added in
such an amount as to produce a nearly complete neutralization of the
final Zeolite.
ABSTRACT WORD COUNT: 91

LEGAL STATUS (Type, Pub Date, Kind, Text):
 Application: 860326 A1 Published application (A1with Search Report
                          ;A2without Search Report)
 Examination: 860326 A1 Date of filing of request for examination:
                          851213
 Examination: 870513 A1 Date of despatch of first examination report:
                          870330
 Grant: 880601 B1 Granted patent
 Oppn: 890426 B1 Opposition 01/890225 Degussa AG, Frankfurt -
                          Zweigniederlassung Wolfgang- Zentrale Abteilung
                          Patente; Rodenbacher Chaussee 4 Postfach 1345;
                          D-6450 Hanau 1; (DE)
 Change: 921209 B1 Representative (change)
 *Assignee: 921209 B1 Proprietor of the patent (transfer of rights):
                          ZEOLITE MIRA s.r.l. (1550130) Via della Scienza
                          11, I-36050 Sovizzo, Vicenza (IT) (applicant
                          designated states:
                          AT;BE;CH;DE;FR;GB;LI;LU;NL;SE)
 Amended: 930127 B2 Maintenance of the European patent as amended
 Lapse: 931118 B2 Date of lapse of the European patent in a
                          Contracting State: SE 930104
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	226
CLAIMS B	(German)	EPBBF1	194
CLAIMS B	(French)	EPBBF1	231
SPEC B	(English)	EPBBF1	1341
Total word count - document A			0
Total word count - document B			1992
Total word count - documents A + B			1992

21/5/10   **(Item 10 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
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00887087   **Image available**
ANOMALY DETECTION SYSTEM AND A METHOD OF TEACHING IT
SYSTEME DE DETECTION D'ANOMALIE ET SON PROCEDE D'APPRENTISSAGE
Patent Applicant/Assignee:
  NOKIA CORPORATION, Keilalahdentie 4, FIN-02150 Espoo, FI, FI (Residence),
    FI (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
  HOGLUND Albert, Tammitie 18 A 11, FIN-00330 Helsinki, FI, FI (Residence),
    FI (Nationality), (Designated only for: US)
  HATONEN Kimmo, Kapytie 8 J 34, FIN-00650 Helsinki, FI, FI (Residence), FI
    (Nationality), (Designated only for: US)
  SORVARI Antti, Landbontie 35, FIN-01180 Ostersundom, FI, FI (Residence),
    FI (Nationality), (Designated only for: US)
Legal Representative:
  KOLSTER OY AB (agent), Iso Roobertinkatu 23, P.O. Box 148, FIN-00121
    Helsinki, FI,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200221242 A1 20020314 (WO 0221242)
  Application: WO 2001FI783 20010910 (PCT/WO FI0100783)
  Priority Application: FI 20001997 20000911
Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY
  BZ CA CH CN CO CR CU CZ CZ (utility model) DE DE (utility model) DK DK
  (utility model) DM DZ EC EE EE (utility model) ES FI FI (utility model)
  GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
  MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SK (utility
  model) SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G06F-001/00**
International Patent Class: **G06F-015/18** ; G06N-003/08
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 3760

English Abstract
  A method for teaching an anomaly detecting mechanism in a system
  comprising observable elements (302), at least one of which has a
  periodic time-dependent behaviour, the anomaly detecting mechanism
  comprising a computerized learning mechanism (314). The method comprises
  assembling indicators (304) indicating the behaviour of the elements
  (302) and arranging the assembled indicators such that each observable
  element's indicators are assigned to the same input data component. The
  learning mechanism (314) is taught so that the input data of the learning
  mechanism comprises the input data components which are based on the
  assembled indicators (304). Points which approximate the input data are
  placed in the input space. A presentation of time (420 - 424) is
  incorporated into at least one input data component wherein the
  presentation of time is periodic, continuous and unambiguous within the
  period of the at least one element with periodic time-dependent
  behaviour.

French Abstract
  La presente invention concerne un procede permettant l'apprentissage d'un
  mecanisme de detection d'anomalie dans un systeme comprenant des elements
  observables (302), dont au moins l'un a un comportement periodique
  dependant du temps, le mecanisme de detection d'anomalie comprenant un
  mecanisme d'apprentissage informatise (314). Le procede comprend
  l'assemblage d'indicateurs (304) indiquant le comportement des elements

(302) et la disposition...es indicateurs assembles de so...que les
indicateurs de chaque element observable sont associes au meme element de
donnees d'entree. L'apprentissage du mecanisme d'apprentissage (314) se
fait de sorte que les donnees d'entree du mecanisme d'apprentissage
comprennent les elements de donnees d'entree qui se basent sur les
indicateurs assembles (304). Des points qui correspondent
approximativement aux donnees d'entree sont places dans l'espace
d'entree. Une presentation de temps (420 - 424) est incorporee a au moins
un element de donnees d'entree, la presentation de temps etant
periodique, continue et non ambigue a l'interieur de l'intervalle de
temps des elements ayant un comportement periodique dependant du temps.

Legal Status (Type, Date, Text)
Publication   20020314 A1 With international search report.
Examination   20020620 Request for preliminary examination prior to end of
                 19th month from priority date

  21/5/11   (Item 11 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00869170   **Image available**
METHOD AND APPARATUS FOR HETEROGENEOUS DISTRIBUTED COMPUTATION
PROCEDE ET SYSTEME DE CALCUL REPARTI HETEROGENE
Patent Applicant/Assignee:
  CALIFORNIA INSTITUTE OF TECHNOLOGY, 1200 East California Boulevard,
    Pasadena, CA 91125, US, US (Residence), US (Nationality)
Inventor(s):
  BAEHR-JONES Tom, 103 N. Wilson, #103, Pasadena, CA 91106, US,
  HOCHBERG Michael, MSC 512-Caltech, Pasadena, CA 91126, US,
Legal Representative:
  HARRIMAN J D II (et al) (agent), Coudert Brothers, 333 South Hope Street,
    Suite 2300, Los Angeles, CA 90071, US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200203258 A1 20020110 (WO 0203258)
  Application: WO 2001US41211 20010629 (PCT/WO US0141211)
  Priority Application: US 2000215224 20000630
Designated States: CA JP
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
Main International Patent Class: **G06F-017/30**
International Patent Class: **G06F-007/00**
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 5773

English Abstract
  The present invention provides a method and apparatus for heterogeneous
  distributed computation. According to one or more embodiments, a
  semi-automatic process for setting up a distributed computing environment
  is used. Each problem (200) that the distributed computing system must
  handle is described as an n-dimensional Cartesian field (210). The
  computational and memory resources needed by the computing system are
  mapped in a monotonic fashion to the Cartesian field (230).

French Abstract
  La presente invention concerne un procede et un systeme de calcul reparti
  heterogene. Dans une ou plusieurs formes de realisation, un procede
  semi-automatique de configuration d'un environnement de calcul reparti
  est utilise. Chaque probleme (200) que le systeme de calcul reparti doit
  resoudre est decrit comme un espace cartesien a n dimensions (210). Les
  ressources computationnelles et les ressources de la memoire dont le
  systeme de calcul a besoin sont mappees de facon monotone relativement a
  l'espace cartesien (230).

Legal Status (Type, Date, Text)
Publication   20020110 A1 With international search report.
Examination   20021010 Request for preliminary examination prior to end of
              19th month from priority date

21/5/12   (Item 12 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2003 WIPO/Univentio. All rts. reserv.

00787042   **Image available**
**COMPUTER SYSTEMS AND METHODS FOR HIERARCHICAL CLUSTER ANALYSIS OFBIOLOGICAL
    DATA**
**SYSTEMES INFORMATIQUES ET METHODES PERMETTANT UNE ANALYSE TYPOLOGIQUE
    HIERARCHIQUE DE GRANDS ENSEMBLES DE DONNEES BIOLOGIQUES COMPRENANT DES
    DONNEES D'ENSEMBLES DE GENES TRES DENSES**
Patent Applicant/Assignee:
  MITOKOR, 11494 Sorrento Valley Road, San Diego, CA 92121, US, US
    (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
  FAHY Eoin David, 7171 Canyon Hill Way, San Diego, CA 92126, US, US
    (Residence), IE (Nationality), (Designated only for: US)
Legal Representative:
  DONOHUE Michael J (et al) (agent), Seed Intellectual Property Law Group
    PLLC, Suite 6300, 701 Fifth Avenue, Seattle, WA 98104-7092, US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200120536 A2-A3 20010322 (WO 0120536)
  Application: WO 2000US25304 20000915 (PCT/WO US0025304)
  Priority Application: US 99397380 19990915
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ
  DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
  LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG
  SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
  (OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G06F-019/00**
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 10806

English Abstract
  A system and corresponding method analyzes biological data for sets of
  test subjects such as gene arrays of group test subjects into clusters
  and order the clusters into a hierarchy based on similarities and
  differences of biological data corresponding to the test subjects. A
  combination of nonhierarchical clustering and hierarchical clustering
  methods is used to efficiently and effectively perform hierarchical
  clustering of such biological data as highly dense gene arrays containing
  many thousand test subjects such as genes. First the test subjects are
  nonhierarchically clustered according to similarities and differences of
  their biological data as determined by distance techniques.
  Representative values, such as mean values, of the biological data are
  determined for each nonhierarchical cluster of test subjects. These
  representative values are then used to hierarchically cluster the
  nonhierarchical clusters. Biological data for each test subject is
  displayed in a row of a table. The rows of the table are arranged by the
  nonhierarchical clustering and further by the hierarchical clustering.
  Each value of the biological data is color coded according to its value
  to display patterns in the hierarchically clustered biological data.

French Abstract
  Cette invention a trait a un systeme ainsi qu'a la methode correspondante
  permettant d'analyser des donnees biologiques relatives a des ensembles

d'objets de test, tels●e des ensembles de genes d'obj●de test de
groupe en grappes ainsi que de classer les grappes hierarchiquement en
fonction des ressemblances et des dissemblances des donnees biologiques
correspondant aux objets de test. On fait appel a une methode de
combinaison de groupage non hierarchique et de groupage hierarchique pour
realiser, efficacement et utilement, un groupage hierarchique de ces
donnees biologiques sous forme d'ensembles de genes tres denses
comprenant plusieurs milliers de sujets d'essai, des genes, en
l'occurrence. Les objets de test sont, tout d'abord, groupes de maniere
non hierarchique en fonction des ressemblances et dissemblances de leurs
donnees biologiques comme determine par des techniques de distance. Il
est alors determine des valeurs representatives, des valeurs moyennes par
exemple, des donnees biologiques pour chaque grappe non hierarchique des
objets de test. On utilise ces valeurs representatives pour grouper de
maniere hierarchique les grappes non hierarchiques. Les donnees
biologiques de chaque objet de test sont affichees dans la rangee d'un
tableau. Ces rangees sont disposees selon un groupage non hierarchique
et, par la suite, selon le groupage hierarchique. Chaque valeur des
donnees biologiques est codee par couleur en fonction des configurations
d'affichage des donnees biologiques groupees hierarchiquement.

Legal Status (Type, Date, Text)
Publication   20010322 A2 Without international search report and to be
                          republished upon receipt of that report.
Examination   20011206 Request for preliminary examination prior to end of
                          19th month from priority date
Search Rpt   20020502 Late publication of international search report
Republication 20020502 A3 With international search report.

  21/5/13   (Item 13 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2003 WIPO/Univentio. All rts. reserv.

00786086   **Image available**
FETAL OUTCOME PREDICTOR AND MONITORING SYSTEM
SYSTEME DE PREVISION DE L'EVOLUTION D'UN FOETUS ET DE SURVEILLANCE
Patent Applicant/Assignee:
  ROSE BIOMEDICAL DEVELOPMENT CORPORATION, 4545 East Ninth Avenue, Denver,
    CO 80220, US, US (Residence), US (Nationality), (For all designated
    states except: US)
Patent Applicant/Inventor:
  NGUYEN Duong, 9995 East Harvard Avenue, Denver, CO 80231, US, US
    (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
  BEATON Glenn K (et al) (agent), Gibson, Dunn & Crutcher, Suite 4100, 1801
    California Street, Denver, CO 80202, US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200119240 A1 20010322 (WO 0119240)
  Application: WO 2000US25456 20000918 (PCT/WO US0025456)
  Priority Application: US 99398178 19990917
Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES
  FI GB GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
  MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG
  US UZ VN YU ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
  (OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: A61B-005/00
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 6854

English Abstract

A fetal health assessor and outcome predictor (28) and monitoring system
(10) includes a system for automatically assessing fetal health and
predicting fetal outcomes based on fetal and maternal data (14).

French Abstract
L'invention concerne un systeme d'evaluation de la sante d'un foetus, de
prevision (28) de l'evolution du foetus, et de surveillance, comprenant
un systeme destine a evaluer la sante du foetus et a prevoir l'evolution
du foetus de facon automatique a partir de donnees (14) foetales et
maternelles.

Legal Status (Type, Date, Text)
Publication 20010322 A1 With international search report.
Examination   20010907 Request for preliminary examination prior to end of
              19th month from priority date

21/5/14   (Item 14 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00784185   **Image available**
**A SYSTEM AND METHOD FOR STREAM-BASED COMMUNICATION IN A COMMUNICATION
    SERVICES PATTERNS ENVIRONMENT**
**SYSTEME, PROCEDE ET ARTICLE DE PRODUCTION FOURNISSANT UN SYSTEME DE
    COMMUNICATION EN CONTINU DANS UN ENVIRONNEMENT DE CONFIGURATIONS DE
    SERVICES DE COMMUNICATION**
Patent Applicant/Assignee:
  ACCENTURE LLP, 1661 Page Mill Road, Palo Alto, CA 94304, US, US
    (Residence), US (Nationality)
Inventor(s):
  BOWMAN-AMUAH Michel K, 6426 Peak Vista Circle, Colorado Springs, CO 80918
    , US,
Legal Representative:
  HICKMAN Paul L (agent), Hickman Coleman & Hughes, LLP, P.O. Box 52037,
    Palo Alto, CA 94303-0746, US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200117195 A2-A3 20010308 (WO 0117195)
  Application: WO 2000US24125 20000831 (PCT/WO US0024125)
  Priority Application: US 99386717 19990831
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ
  DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
  LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG
  SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
  (OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: H04L-029/06
International Patent Class: **G06F-017/22** ; H04L-029/12
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 150532

English Abstract
  A system, method, and article of manufacture are disclosed for providing
  a stream-based communication system. A shared format is defined on
  interface code for a sending system and a receiving system. A message to
  be sent from the sending system to the receiving system is translated
  based on the shared format. Once translated, the message is then sent
  from the sending system and received by the receiving system. Once the
  message is received by the receiving system, the message is then
  translated based on the shared format.

French Abstract

L'invention concerne un systeme, un procede et un article de production fournissant un systeme de communication en continu. Un format partage est defini selon un code d'interface pour un systeme emetteur et un systeme recepteur. Un message devant etre envoye par le systeme emetteur est traduit sur la base du format partage. Une fois traduit, le message est envoye du systeme emetteur et recu par le systeme recepteur. Le message recu par le systeme recepteur est ensuite traduit sur la base du format partage.

Legal Status (Type, Date, Text)
Publication   20010308 A2 Without international search report and to be
                        republished upon receipt of that report.
Examination   20010907 Request for preliminary examination prior to end of
                        19th month from priority date
Search Rpt   20011115 Late publication of international search report
Republication 20011115 A3 With international search report.

21/5/15   (Item 15 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00784184   **Image available**
**A SYSTEM, METHOD FOR FIXED FORMAT STREAM COMMUNICATION IN A COMMUNICATION
    SERVICES PATTERNS ENVIRONMENT**
**SYSTEME, PROCEDE ET ARTICLE POUR FLUX DE FORMAT FIXE DANS UN ENVIRONNEMENT
    A CONFIGURATIONS DE SERVICES DE COMMUNICATION**
Patent Applicant/Assignee:
  ACCENTURE LLP, 1661 Page Mill Road, Palo Alto, CA 94304, US, US
     (Residence), US (Nationality)
Inventor(s):
  BOWMAN-AMUAH Michel K, 6426 Peak Vista Circle, Colorado Springs, CO 80918
     , US,
Legal Representative:
  HICKMAN Paul L (agent), Oppenheimer Wolff & Donnelly LLP, P.O. Box 52037,
     Palo Alto, CA 94303-0746, US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200117194 A2-A3 20010308 (WO 0117194)
  Application: WO 2000US24114 20000831 (PCT/WO US0024114)
  Priority Application: US 99386430 19990831
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ
  DE DK DZ EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR
  LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL
  TJ TM TR TT UA UG UZ VN YU ZA ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
  (OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: H04L-029/06
International Patent Class: **G06F-017/22** ; H04L-029/12
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 149954

English Abstract
  A system, method, and article of manufacture provide a fixed format
  stream-based communication system. A sending fixed format contract on
  interface code is defined for a sending system. A receiving fixed format
  contract on interface code is also defined for a receiving system. A
  message to be sent from the sending system to the receiving system is
  translated based on the sending fixed format contract. The message is
  then sent from the sending system and subsequently received by the
  receiving system. The message received by the receiving system is then
  translated based on the receiving fixed format contract.

French Abstract
  L'invention concerne un systeme, un procede et un article pour systeme de
  communication a flux de format fixe. Un contrat de format fixe de
  transmission sur code d'interface est defini pour un systeme de
  transmission. Un contrat de format fixe de reception sur code d'interface
  est egalement defini pour un systeme de reception. Un message destine a
  etre envoye du systeme de transmission au systeme de reception est
  converti sur la base du contrat de format fixe de transmission. Le
  message est ensuite transmis depuis le systeme de transmission, puis il
  est recu par le systeme de reception et converti sur la base du contrat
  de format fixe.

Legal Status (Type, Date, Text)
Publication   20010308 A2 Without international search report and to be
                         republished upon receipt of that report.
Examination   20010816 Request for preliminary examination prior to end of
                         19th month from priority date
Search Rpt   20020103 Late publication of international search report
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DIALOG(R)File 349:PCT FULLTEXT
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00769510   **Image available**
**A METHOD AND SYSTEM TO SYNTHESIZE PORTFOLIOS OF GOODS, SERVICES OR
    FINANCIAL INSTRUMENTS**
**PROCEDE ET DISPOSITIF PERMETTANT DE SYNTHETISER DES PORTEFEUILLES DE BIENS,
    DE SERVICES OU D'INSTRUMENTS FINANCIERS**
Patent Applicant/Assignee:
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    (Residence), US (Nationality)
Inventor(s):
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Legal Representative:
  MORRIS Francis E, Pennie & Edmonds LLP, 1155 Avenue of the Americas, New
    York, NY 10036, US
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200103046 A1 20010111 (WO 0103046)
  Application: WO 2000US18632 20000707 (PCT/WO US0018632)
  Priority Application: US 99142543 19990707
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ
  DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
  LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG
  SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
  (OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G06F-017/60**
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 14128

English Abstract
  The present invention includes methods and systems for dynamically
  synthesizing custom portfolios of goods, services or financial
  instruments for clusters of customers from preference data is gathered
  (102), next, customers are clustered into clusters of similar customers
  (104), subsequently indifference or utility surfaces are determined that
  represent the landscape of customer preferences(105), and finally, custom
  and optimum portfolios are synthesized from the indifference surface and,
  preferably, historical data concerning the goods, services or financial
  instruments (106). The present invention also includes computer systems,

preferably network-bas⬤ distributed systems, that impl⬤ent the methods
of the invention.

French Abstract
L'invention concerne des procedes et des dispositifs permettant de
synthetiser de maniere dynamique des portefeuilles de biens, de services
ou d'instruments financiers sur mesure, pour un groupe de clients a
partir de donnees relatives aux preferences d'un client. Selon les
procedes decrits dans l'invention, les donnees relatives aux preferences
d'un client sont d'abord rassemblees (102); puis les clients sont
regroupes par groupes de clients similaires (104); ensuite, des plages de
services ou d'indifference sont determinees, elles constituent le paysage
des preferences d'un client ; enfin, les portefeuilles optimums et
personnalises sont synthetises a partir de la plage d'indifference et, de
preference, a partir des donnees historiques concernant les biens, les
services ou les instruments financiers (106). L'invention concerne
egalement des systemes informatiques, de preference, en reseau, des
systemes d'exploitation repartis, qui permettent de mettre en oeuvre les
procedes decrits dans cette invention.

Legal Status (Type, Date, Text)
Publication   20010111 A1 With international search report.
Publication   20010111 A1 Before the expiration of the time limit for
                          amending the claims and to be republished in the
                          event of receipt of amendments.
Examination   20010419 Request for preliminary examination prior to end of
                          19th month from priority date

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DIALOG(R)File 349:PCT FULLTEXT

00368277
**MULTILINGUAL DOCUMENT RETRIEVAL SYSTEM AND METHOD USING SEMANTIC VECTOR
    MATCHING**
**SYSTEME DE RECHERCHE DE DOCUMENTS MULTILINGUES ET PROCEDE UTILISANT LA MISE
    EN CORRESPONDANCE DE VECTEURS SEMANTIQUES**
Patent Applicant/Assignee:
  SYRACUSE UNIVERSITY,
  LIDDY Elizabeth D,
  PAIK Woojin,
  YU Edmund S,
  LI Ming,
Inventor(s):
  LIDDY Elizabeth D,
  PAIK Woojin,
  YU Edmund S,
  LI Ming,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 9708604 A2 19970306
  Application: WO 96US13342 19960814   (PCT/WO US9613342)
  Priority Application: US 952473 19950816
Designated States: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB
  GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ
  PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN KE LS MW SD SZ UG
  AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL
  PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Main International Patent Class: **G06F-017/28**
International Patent Class: G06F-17:30
Publication Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 13054

English Abstract
  A document retrieval system (20) where a user can enter a query,

including a natural qu●, in a desired one of a plurali●of supported
languages, and retrieve documents from a database (60) that includes
documents in at least one other language of the plurality of supported
languages. The user need not have any knowledge of the other languages.
Each document in the database is subjected to a set of processing steps
to generate a language-independent conceptual representation of the
subject content of the document. The query is also subjected to a
(possibly different) set of processing steps to generate a
language-independent conceptual representation of the subject content of
the query. Documents are matched to queries based on the conceptual-level
contents of the document and query, and, optionally, on the basis of the
term-based representation.

French Abstract
  Cette invention concerne un systeme de recherche de documents dans
lequel un utilisateur peut soumettre une interrogation, y compris une
interrogation en langage naturel, dans une langue choisie parmi une
pluralite de langues disponibles, et rechercher des documents dans une
base de donnees qui comporte des documents dans au moins un autre langue
appartenant a l'ensemble des langues disponibles. L'utilisateur peut
n'avoir aucune connaissance des autres langues. Chaque document de la
base de donnees est soumis a un ensemble de phases de traitement dans le
but de produire une representation conceptuelle, non liee a une langue,
du contenu dudit document. Ceci est normalement effectue avant que
l'interrogation ne soit entree. L'interrogation est egalement soumise a
un ensemble (eventuellement different) de phases de traitement dans le
but de produire une representation conceptuelle, non liee a une langue,
du contenu de l'interrogation. On peut egalement soumettre interrogations
et documents a une analyse supplementaire afin de disposer de
representations terminologiques supplementaires, notamment une extraction
des termes et expressions riches en information (tels que les noms
propres). Les documents sont mis en correspondance avec les
interrogations sur la base de leurs contenus de niveau conceptuel, et
eventuellement sur la base de la representation terminologique. La
representation de l'interrogation est ensuite comparee a la
representation de chaque document de maniere a produire une mesure du
rapport existant entre le document et l'interrogation.

 21/5/18   (Item 18 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00367145   **Image available**
METHOD AND APPARATUS FOR A PROCESS AND PROJECT MANAGEMENT COMPUTER SYSTEM
PROCEDE ET APPAREIL POUR SYSTEME INFORMATIQUE DE GESTION DE PROCESSUS ET DE
   PROJET
Patent Applicant/Assignee:
 INTERNATIONAL BUSINESS MACHINES CORPORATION,
 BANDAT Kurt,
 PARNCUTT Geoff,
 VOESCH Ekkehard,
 LEISTEN Udo,
Inventor(s):
 BANDAT Kurt,
 PARNCUTT Geoff,
 VOESCH Ekkehard,
 LEISTEN Udo,
Patent and Priority Information (Country, Number, Date):
 Patent: WO 9707472 A1 19970227
 Application: WO 95EP3289 19950818   (PCT/WO EP9503289)
 Priority Application: WO 95EP3289 19950818
Designated States: JP US AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
Main International Patent Class: **G06F-017/60**
Publication Language: English
Fulltext Availability:
 Detailed Description
 Claims

Fulltext Word Count: 14364

English Abstract
  Current demands for quality systems imply requirements for synergistic
  integration of dynamic process and project planning, management and
  execution of work processes and people performing these tasks in
  different roles. Each individual user role exercises a different view
  over the work process, where the different views comprise different,
  partly overlapping functions over a work process. The inventive concept
  comprises a system platform for a synergistic, role modular work process
  environment. A work process object (WPO) (1001) is created, residing in a
  data base, and stored in a memory of the process and project management
  computer system (1030). All data concerning the process and project
  management are reported to said work process object (WPO) (1001) and said
  work process object (WPO) (1001) is used as a common data base. According
  to the inventive concept, each view must be supported by a specific
  workplace, represented by digital data and enforcing the rules for the
  specific role. A work process information model supports the dynamic
  definition and use of a data base object representing a work process,
  both in its process and project planning modes and its execution.
  According to the inventive concept, one object supports **simultaneously**
  all modes delimited by dynamically **moving boundaries** . Workplace
  implementation enforces over-all rules for each role in the inventive
  system.

French Abstract
   Les exigences actuelles en matiere de systemes de qualite refletent la
  necessite d'une integration synergique dans les domaines de la
  planification dynamique de processus et de projets, de la gestion et de
  l'execution de processus de travail, ainsi que chez les personnes qui
  effectuent ces taches dans des roles differents. Le role de chaque
  utilisateur individuel donne lieu a un apercu different du processus de
  travail, chaque apercu comprenant des fonctions differentes et se
  chevauchant partiellement lors du processus de travail. Le concept decrit
  dans cette invention consiste en une plate-forme systeme destinee a un
  environnement synergique d'un processus de travail modulaire et par role.
  Un objet du processus de travail (WPO) (1001) est tout d'abord cree de
  maniere a etre resident dans une base de donnees, puis stocke dans la
  memoire d'un systeme informatique (1030) de gestion de processus et de
  projet. Toutes les donnees relatives a la gestion du processus et du
  projet sont rapportees audit objet du processus de travail (WPO) (1001),
  lequel est utilise a la maniere d'une base de donnees traditionnelle.
  D'apres le concept de cette invention, chaque apercu doit avoir pour
  support un lieu de travail specifique et etre represente par des donnees
  numeriques, les regles d'un role specifique etant appliquees. Un modele
  informatif du processus de travail sert de support a la definition et a
  l'utilisation dynamiques d'un objet de base de donnees representant un
  processus de travail, tant dans les modes de planification du processus
  et du projet que lors de l'execution. Toujours d'apres le concept de
  cette invention, un objet supporte simultanement tous les modes delimites
  par des barrieres se deplacant de maniere dynamique. L'installation du
  lieu de travail entraine l'application des regles globales pour chaque
  role du systeme decrit dans la presente invention.

21/5/19   (Item 19 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00334955   **Image available**
**SYSTEM AND METHOD FOR SCHEDULING BROADCAST OF AND ACCESS TO VIDEO PROGRAMS
    AND OTHER DATA USING CUSTOMER PROFILES**
**SYSTEME ET PROCEDE DE PLANIFICATION DE LA DIFFUSION DE PROGRAMMES VIDEOS ET
    AUTRES TYPES DE DONNEES ET DE PLANIFICATION DE L'ACCES A CES DERNIERS
    AU MOYEN DE PROFILS CLIENTS**
Patent Applicant/Assignee:
  HERZ Frederick,
  UNGAR Lyle,

ZHANG Jian,
WACHOB David,
SALGANICOFF Marcos,
Inventor(s):
  HERZ Frederick,
  UNGAR Lyle,
  ZHANG Jian,
  WACHOB David,
  SALGANICOFF Marcos,

English Abstract
   A system and method for scheduling the receipt of desired movies and
   other forms of data from a network which simultaneously distributes many
   sources of such data to many customers, as in a cable television system.
   Customer profiles are developed for the recipient describing how
   important certain characteristics of the broadcast video program, movie
   or other data are to each customer. From these profiles, an "agreement
   matrix" (908) is calculated by comparing the recipient's profiles to the
   actual profiles of the characteristics of the available video programs,
   movies, or other data. The agreement matrix (908) thus characterizes the
   attractiveness of each video program, movie, or other data to each
   prospective customer. "Virtual" channels are generated from the agreement
   matrix (908) to produce a series of video or data programming which will
   provide the greatest satisfaction to each customer. Feedback paths (1020,
   1024) are also provided so that the customer's profiles and/or the
   profiles of the video programs or other data may be modified to reflect
   actual usage, and so that the data downloaded to the customer's set top
   terminal (620) may be minimized. Kiosks (figure 11) are also developed
   which assist customers in the selection of videos, music, books, and the
   like in accordance with the customer's objective profiles.

French Abstract
   La presente invention concerne un systeme et un procede de planification
   assurant une reception selective de films et autres formes de donnees a
   partir d'un reseau qui distribue simultanement, a de nombreux clients,
   plusieurs sources de donnees de ce type, tel qu'un systeme de television
   par cable. Les profils clients, developpes pour chaque destinataire,
   decrivent l'importance relative que chaque client accorde a certaines
   caracteristiques des programmes videos, des films ou autres types de
   donnees diffuses. A partir de ces profils, une "matrice d'harmonisation"
   (908) est calculee par comparaison des profils du destinataire et des
   profils reels des caracteristiques des programmes video, des films et
   autres types de donnees disponibles. La "matrice d'harmonisation" (908)
   caracterise ainsi l'attrait de chaque programme video, film ou autre type
   de donnees pour chaque client potentiel. Des chaines virtuelles sont
   creees a partir de la "matrice d'harmonisation" (908) afin de produire
   une serie de programmes videos ou de donnees qui procureront au client la
   plus grande satisfaction. Des voies de retour de l'information (1020,
   1024) sont egalement disponibles de facon que les profils clients et/ou
   les profils de programmes videos ou des autres types de donnees puissent
   etre modifies pour refleter l'utilisation reelle, et de facon a minimiser
   le nombre de donnees telechargees sur le terminal du poste du client
   (620). Des kiosques (figure 11) sont egalement developpes pour aider les
   clients a choisir des videos, morceaux musicaux, livres et autres donnees

similaires en fonction des profils objectifs du client.

21/5/20   (Item 20 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00121582   **Image available**
AUTOMATIC LIQUID LEVEL INDICATOR AND ALARM SYSTEM
SYSTEME D'ALARME ET D'INDICATION DU NIVEAU D'UN LIQUIDE
Patent Applicant/Assignee:
  CLARKSON Marvin Richard,
Inventor(s):
  CLARKSON Marvin Richard,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 8404837 A1 19841206
  Application: WO 80US1378 19801015   (PCT/WO US8001378)
  Priority Application: WO 80US521 19800428
Designated States: US
Main International Patent Class: G08B-021/00
International Patent Class: G01F-23:10
Publication Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 8980

English Abstract   ·
  An automatic liquid level indicator and alarm system (10) that
  automatically emits an alarm when liquid in a vessel reaches a
  preselected low or high level. The system (10) is particularly adaptable
  for use on petroleum storage tanks (50) of the type found on petroleum
  tanks farms. The system (10) comprises a low-level and a high-level
  permanent magnet (11) (12); a low-level and a high-level magnetic sensor
  (24) (25); an encoder-RF transmitter (15) (16); an RF receiver-decoder
  (18) (19); an alpha-numeric display (20) and an audible alarm (21). The
  magnets (11) (12) are attached to an existing movable tape (31) whose
  position at any instant is relative to the position of a float (40)
  within the tank (50). The magnets (11) (12) are located at positions
  indicative of the preselected low or high level marks. When either magnet
  (11) (12) is juxtaposed with its respective sensor (24) (25) a signal is
  transmitted by the encoder-RF transmitter (15) (16) and is received by
  the RF receiver-decoder (18) (19) located at a remote monitor station.
  The signal is displayed on the display (20) and simultaneously the alarm
  (21) is energized to alert station personnel of the incoming signal.

French Abstract
  Un systeme (10) d'alarme et d'indication automatique du niveau d'un
  liquide declenche automatiquement une alarme lorsqu'un liquide atteint un
  niveau preselectionne bas ou haut dans un conteneur. Le systeme (10) est
  particulierement adapte pour etre utilise dans des reservoirs de stockage
  de petrole (50) que l'on trouve dans des parcs de reservoirs de stockage.
  Le systeme (10) comprend un aimant permanent de bas niveau et de haut
  niveau (11, 12), un detecteur magnetique de bas niveau et de haut niveau
  (24, 25), un codeur-emetteur (HF 15, 16) un decodeur-recepteur HF (18,
  19), un affichage alphanumerique (20) et une alarme sonore (21). Les ·
  aimants (11, 12) sont fixes a une bande existante mobile (31) dont la
  position en tout instant est relative par rapport a la position d'un
  flotteur (40) se trouvant dans le reservoir (50). Les aimants (11, 12)
  sont places en des positions representant des reperes preselectionnes de
  bas niveau ou de haut niveau. Lorsque l'un ou l'autre des aimants (11,
  12) est juxtapose par rapport a son detecteur respectif (24, 25), un
  signal est transmis par le codeur-emetteur HF (15, 16) et il est recu par
  le decodeur-recepteur HF (18, 19) situe dans une station de controle
  eloignee. Le signal est affiche sur l'affichage (20) et simultanement
  l'alarme (21) est declenchee pour alerter le personnel de la station du
  signal arrivant.

```
Set     Items   Descript
S1       3951   KMEAN? OR K()MEAN? ?
S2    5516486   CENTROID? OR CENTER? OR CENTRAL? OR MEDIAN? OR MIDPOINT? OR
                MID()POINT? OR MIDDLE? OR MEAN OR MEANS
S3    3200316   CLUSTER? OR MATRIX? OR PARTITION? OR DATA()POINT? OR BOUND-
                AR?
S4    1203928   PARALLEL()PROCESS? OR CONCUR? OR CO()OCCUR? OR COOCCUR? OR
                SIMULTAN? OR SAME()TIME?
S5    1393057   MOVE? OR REALIGN? OR REASSIGN? OR REDESIGNAT? OR MOVING OR
                UPDAT? OR UP()(DATE? OR DATING?)
S6        208   S1 AND S4
S7         91   S2(5N)S5 AND S3 AND S4
S8        301   S2 AND S5 AND S3 AND S4 AND (ALGORITHM? OR FORMULA? OR STA-
                TISTICAL()METHOD? OR CALCULATION?)
S9      23023   (CLUSTER? OR GROUP? OR DATAPOINT? OR DATA()POINT? OR BOUND-
                AR?)(2N)S5
S10         3   S6 AND S7
S11        20   S6 AND S8
S12         1   S6 AND S9
S13        34   S8 AND S9
S14        53   S10 OR S11 OR S12 OR S13
S15        37   RD (unique items)
S16        33   S15 NOT PY>2000
S17        33   S16 NOT PD>20001004
File     8:Ei Compendex(R) 1970-2003/Feb W2
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           (c) 2003 American Institute of Physics
File    99:Wilson Appl. Sci & Tech Abs 1983-2003/Jan
           (c) 2003 The HW Wilson Co.
File    95:TEME-Technology & Management 1989-2003/Feb W2
           (c) 2003 FIZ TECHNIK
```

05593718   E.I. No: EIP00065224012
   Title: Numerical simulation of heat transfer induced by a body moving
 in the same direction as flowing fluids
   Author: Fu, W.-S.; Yang, S.-J.
   Corporate Source: Natl Chiao Tung Univ, Hsinchu, Taiwan
   Source: Heat and Mass Transfer/Waerme- und Stoffuebertragung v 36 n 3
2000. p 257-264
   Publication Year: 2000
   CODEN: HMTRF8   ISSN: 0042-9929
   Language: English
   Document Type: JA; (Journal Article)   Treatment: T; (Theoretical)
   Journal Announcement: 0008W2

   Abstract: Variations of flow field and heat transfer induced by a body
moving in the same direction as flowing fluids in a channel were studied
numerically. This situation is cataloged to a kind of **moving   boundary**
problem and an arbitrary Lagrangian-Eulerian description method with a
Galerkin finite element **formulation** is adopted to analyze this problem.
Several different **moving** velocities of the body and Reynolds numbers are
taken into consideration. The results show that the fluids **simultaneously**
complement the vacant space induced by the **movement** of the body and new
recirculation zones are formed near the body. These phenomena are
remarkably different from those of the **moving** body regarded as a
stationary body in the flowing fluids by a relative velocity viewpoint.
Heat transfer rates of the body are enhanced significantly as the body
moves rapidly, but the slight enhancement is indicated as the body **moves**
slower than the flowing fluids. In the computing range, the **mean** global
Nusselt numbers Nu over bar can be approximately expressed as the form of
Nu over bar equals 0.62 Re***1**/**2 minus 2.95. (Author abstract) 15 Refs.
   Descriptors: *Heat transfer; Computer simulation; Channel flow; Equations
of motion; Galerkin methods; Finite element method; Reynolds number;
Nusselt number
   Identifiers: Arbitrary Lagrangian-Eulerian method
   Classification Codes:
   641.2 (Heat Transfer); 723.5 (Computer Applications); 631.1 (Fluid
Flow, General); 921.2 (Calculus); 921.6 (Numerical Methods); 931.2
(Physical Properties of Gases, Liquids & Solids)
   641 (Heat & Thermodynamics); 723 (Computer Software); 631 (Fluid Flow
& Hydrodynamics); 921 (Applied Mathematics); 931 (Applied Physics)
   64 (HEAT & THERMODYNAMICS); 72 (COMPUTERS & DATA PROCESSING); 63
(FLUID DYNAMICS & VACUUM TECHNOLOGY); 92 (ENGINEERING MATHEMATICS); 93
(ENGINEERING PHYSICS)

05480555   E.I. No: EIP00025037588
   Title: Synchronization and load balancing for parallel hierarchical
radiosity of complex scenes on a heterogeneous computer network
   Author: Meneveaux, Daniel; Bouatouch, Kadi
   Corporate Source: IRISA, Rennes, Fr
   Source: Computer Graphics Forum v 18 n 4 1999. p 201-212
   Publication Year: 1999
   CODEN: CGFODY   ISSN: 0167-7055
   Language: English
   Document Type: JA; (Journal Article)   Treatment: T; (Theoretical)
   Journal Announcement: 0004W1

   Abstract: In this paper we propose a SPMD parallel hierarchical radiosity
 algorithm relying on a novel **partitioning** method which may apply to any
kind of architectural scene. This **algorithm** is based on MPI (Message
Passing Interface), a communication library which allows the use of either
a heterogeneous set of **concurrent** computers or a parallel computer or
both. The database is stored on a common directory and accessed by all the

processors (through NFS ⬤case of a network of computers)⬤As the
objective is to handle complex scenes such as building interiors, to cope
with the problem of memory size, only a subset of the database resides in
memory of each processor. This subset is determined with the help of a
partitioning into 3D cells, **clustering** and visibility **calculations** . A
graph expressing visibility between the resulting **clusters** is determined,
 partitioned (with a new method based on classification of **K - means**
type) and distributed amongst all the processors. Each processor is
responsible for gathering energy (using the Gauss-Seidel method) only for
its subset of **clusters** . In order to reduce the disk transfers due to
downloading these subsets of **clusters** , we use an ordering strategy based
on the traveling salesman **algorithm** . Dynamic load balancing relies on a
task stealing approach while termination is detected by configuring the
processors into a ring and **moving** a token around this ring. The parallel
iterative resolution is of group iterative type. Its mathematical
convergence is proven in the appendix. (Author abstract) 20 Refs.
  Descriptors: Three dimensional computer graphics; **Parallel   processing**
systems; **Algorithms** ; Graphical user interfaces; Database systems;
Iterative methods; Convergence of numerical methods
  Identifiers: Parallel hierarchical radiosity **algorithms** ; Message
passing interfaces (MPI)
  Classification Codes:
  723.5 (Computer Applications); 722.4 (Digital Computers & Systems);
722.2 (Computer Peripheral Equipment); 723.3 (Database Systems)
  723 (Computer Software); 722 (Computer Hardware); 921 (Applied
Mathematics)
  72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

  17/5/3   (Item 3 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)
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05047260   E.I. No: EIP98064269631
  Title: **Vertical profiles of the scattering coefficient of dry atmospheric
particles   over   Europe   normalized   to   air   at   standard   temperature and
pressure**
  Author: Haenel, Gottfried
  Corporate Source: Johann Wolfgang Goethe Univ, Frankfurt am Main, Ger
  Source: Atmospheric Environment v 32 n 10 May 1998. p 1743-1755
  Publication Year: 1998
  CODEN: ATENBP   ISSN: 1352-2310
  Language: English
  Document Type: JA; (Journal Article)   Treatment: T; (Theoretical)
  Journal Announcement: 9808W4
  Abstract: **Simultaneous** vertical profiles of the scattering coefficient
of the air at one wavelength between 0.475 and 0.75 mu m, temperature,
pressure, and relative humidity have been measured from 1973 to 1978,
mostly in **Central** and Western Europe. From these results, vertical
profiles of the normalized (to air at standard temperature and pressure)
scattering coefficients of dry particles were derived. These standardized
scattering coefficients are independent of the thermodynamic state of the
atmosphere and thus strictly comparable. **Mean** vertical profiles of the
normalized scattering coefficients of dry particles from 400 up to 5000 m
above **mean** sea level are obtained as results. These profiles are
different in continental and maritime air as well as during the summer and
the winter half-years. The results allow the **formulation** of simple
profile models for the light scattering by mid-latitude particles in the
lower troposphere over **Central** and Western Europe. These models are in
accordance with our knowledge about the atmospheric **boundary** layer
phenomena and indicate that in the **mean** the major particle sources should
be at or near the ground. Integrals over the **mean** profiles agree with
results from sun photometry. (Author abstract) 36 Refs.
  Descriptors: Air pollution; Atmospheric aerosols; Light scattering;
Troposphere; **Boundary** layers; Atmospheric **movements** ; Climatology;
Atmospheric radiation; Mathematical models
  Identifiers: Atmospheric **boundary** layer; Scattering coefficients
  Classification Codes:

443.1 (Atmospheric Pr●rties); 451.1 (Air Pollution ●rces); 804.1 (Organic Components); 804.2 (Inorganic Components); 741.1 (Light/Optics)
   451 (Air Pollution); 443 (Meteorology); 804 (Chemical Products); 741 (Optics & Optical Devices)
   45 (POLLUTION & SANITARY ENGINEERING); 44 (WATER & WATERWORKS ENGINEERING); 80 (CHEMICAL ENGINEERING); 74 (OPTICAL TECHNOLOGY)

17/5/4   (Item 4 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)
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05035189   E.I. No: EIP98064250768
   Title: Quantitative analysis of MR brain image sequences by adaptive self-organizing finite mixtures
   Author: Wang, Yue; Adali, Tulay; Lau, Chi-Ming; Kung, Sun-Yuan
   Corporate Source: Catholic Univ of America, Washington, DC, USA
   Source: Journal of VLSI Signal Processing Systems for Signal, Image, and Video Technology v 18 n 3 Apr 1998. p 219-239
   Publication Year: 1998
   CODEN: JVSPED   ISSN: 0922-5773
   Language: English
   Document Type: JA; (Journal Article)   Treatment: T; (Theoretical)
   Journal Announcement: 9808W2

   Abstract: This paper presents an adaptive structure self-organizing finite mixture network for quantification of magnetic resonance (MR) brain image sequences. We present justification for the use of standard finite normal mixture model for MR images and **formulate** image quantification as a distribution learning problem. The finite mixture network parameters are **updated** such that the relative entropy between the true and estimated distributions is minimized. The new learning scheme achieves flexible classifier **boundaries** by forming winner-takes-in probability splits of the data allowing the data to contribute **simultaneously** to multiple regions. Hence, the result is unbiased and satisfies the asymptotic optimality properties of maximum likelihood. To achieve a fully automatic quantification procedure that can adapt to different slices in the MR image sequence, we utilize an information theoretic criterion that we have introduced recently, the minimum conditional bias/variance (MCBV) criterion. MCBV allows us to determine the suitable number of mixture components to represent the characteristics of each image in the sequence. We present examples to show that the new method yields very efficient and accurate performance compared to expectation-maximization, **K - means** , and competitive learning procedures. (Author abstract) 35 Refs.
   Descriptors: Magnetic resonance imaging; Image analysis; Neural networks; Brain; Computer simulation; Learning **algorithms** ; Probability; Information theory
   Identifiers: Image quantification; Finite mixture network
   Classification Codes:
   701.2 (Magnetism: Basic Concepts & Phenomena); 723.2 (Data Processing); 461.1 (Biomedical Engineering); 723.5 (Computer Applications); 922.1 (Probability Theory); 716.1 (Information & Communication Theory)
   701 (Electricity & Magnetism); 723 (Computer Software); 461 (Biotechnology); 922 (Statistical Methods); 716 (Radar, Radio & TV Electronic Equipment)
   70 (ELECTRICAL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 46 (BIOENGINEERING); 92 (ENGINEERING MATHEMATICS); 71 (ELECTRONICS & COMMUNICATIONS)

17/5/5   (Item 5 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)
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04288422   E.I. No: EIP95112928547
   Title: Second moments, spectra and correlation functions of velocity and temperature fluctuations in the gradient sublayer of a retarded boundary **layer**
   Author: Kader, B.A.

Abstract: The turbulent structure of velocity and temperature fields in **moving** equilibrium retarded **boundary** layers is analyzed. Most attention is given to 'the gradient sublayer', where, according to Ginevskii and Solodkin left bracket Prikl. Mat. Mech. (Appl. Math. Mech.) 22, 819-825 (1958) right bracket , Stratford left bracket J. Fluid Mech. 5, 1-16; 17-35 (1959) left bracket and Perry et al. left bracket J. Fluid Mech. 25, 299-320 (1966) right bracket , the **mean** velocity and temperature profiles are described by the half-power and inverse half-power laws. Kader left bracket Dokl. Akad. Nauk U.S.S.R. 279, 323-327 (1984); Int. J. Heat Mass Trans. 34, 2837-2857 (1991) right bracket deduced **formulas** for spectra and cospectra of velocity components and temperature in the gradient sublayer for the mesoscale range of wave numbers k by dimensional analysis and then compared them with available experimental data. It is shown that accurate determination of velocity variances and Reynolds stresses requires taking into account the contribution of large-scale turbulent disturbances corresponding to small values of k. It is not so for determination of the temperature variance and vertical heat flux evaluation. An analysis of low wave number parts of velocity and temperature spectra and cospectra is given, and its results are used to determine the correlation functions of turbulent fluctuations in the gradient sublayer. The **formulas** for one-point second-order moments (variances left angle bracket t**2 right angle bracket , left angle bracket u**2 right angle bracket and left angle bracket v**2 right angle bracket , temperature flux left angle bracket vt right angle bracket , and Reynolds stress left angle bracket minus uv right angle bracket) in the gradient sublayer of quasi-equilibrium flows are also derived and compared with the available data. Comparison of calculated and experimental spectra of non-equilibrium retarded flows uncovers disagreement in the mesoscale wave number part of the spectra for vertical velocity and Reynolds stress fluctuations. At the **same   time** longitudinal fluctuation spectra and one-point variance left angle bracket u**2 right angle bracket prove to be less sensitive to non-equilibrium conditions. (Author abstract) 25 Refs.
Descriptors: **Boundary** layers; Turbulent flow; Velocity; Temperature; Reynolds number; Heat flux
Identifiers: Retarded **boundary** layer; Second moments; Gradient sublayer ; Correlation functions; Temperature variance
Classification Codes:
631.1 (Fluid Flow, General); 641.1 (Thermodynamics); 641.2 (Heat Transfer)
631 (Fluid Flow & Hydrodynamics); 641 (Heat & Thermodynamics)
63 (FLUID DYNAMICS & VACUUM TECHNOLOGY); 64 (HEAT & THERMODYNAMICS)

17/5/6   (Item 6 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)
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04193230   E.I. No: EIP95062753101
   Title: Segmentation of brain parenchyma and cerebrospinal fluid in multispectral magnetic resonance images
Author: Lundervold, Arvid; Storvik, Geir
Corporate Source: Univ of Bergen, Bergen, Norway
Abstract: This paper presents a new method to segment brain parenchyma and cerebrospinal fluid spaces automatically in routine axial spin echo

multispectral MR images. ⬤e **algorithm** simultaneously ⬤corporates information about anatomical **boundaries** (shape) and tissue signature (grey scale) using a priori knowledge. The head and brain are divided into four regions and seven different tissue types. Each tissue type c is modeled by a multivariate Gaussian distribution $N(\mu //c, \Sigma //c)$. Each region is associated with a finite mixture density corresponding to its constituent tissue types. Initial estimates of tissue parameters left brace $\mu //c$, $\Sigma //c$ right brace c equals 1, ..., 7 are obtained from **k - means clustering** of a single slice used for training. The first **algorithmic** step uses the EM- **algorithm** for adjusting the initial tissue parameter estimates to the MR data of new patients. The second step uses a recently developed model of dynamic contours to detect three simply closed noninteresting curves in the plane, constituting the arachnoid/dura mater **boundary** of the brain, the border between the subarachnoid space and brain parenchyma, and the inner border of the parenchyma toward the lateral ventricles. The model, which is **formulated** by energy functions in a Bayesian framework, incorporates a priori knowledge, smoothness constraints, and **updated** tissue type parameters. Satisfactory maximum a posteriori probability estimates of the closed contour curves defined by the model were found using simulated annealing. (Author abstract) 56 Refs.

Descriptors: Image segmentation; Magnetic resonance imaging; Brain; **Algorithms** ; Tissue; **Statistical methods** ; Parameter estimation; Mathematical models; Medical imaging; Probability

Identifiers: Cerebrospinal fluid; Anatomical **boundaries** ; Arachnoid; Dura mater

Classification Codes:

461.1 (Biomedical Engineering); 461.2 (Biological Materials); 723.1 (Computer Programming); 922.2 (Mathematical Statistics); 922.1 (Probability Theory); 921.5 (Optimization Techniques)

461 (Biotechnology); 723 (Computer Software); 922 (Statistical Methods); 921 (Applied Mathematics)

46 (BIOENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

17/5/7   (Item 7 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)
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03960644   E.I. No: EIP94101421711
Title: **Kinetic analysis of a bimetallic ion exchange system by microscopic measurement of the** moving boundaries
Author: Mijangos, Federico; Diaz, Mario
Corporate Source: Univ of Pais Vasco, Spain
Source: Journal of Colloid and Interface Science v 164 n 1 Apr 1994. p 215-222
Publication Year: 1994
CODEN: JCISA5   ISSN: 0021-9797
Language: English
Document Type: JA; (Journal Article)   Treatment: T; (Theoretical); X; (Experimental)
Journal Announcement: 9412W1

Abstract: Two different colored layers surrounding the **central** core have been observed during the **simultaneous** uptake of copper and cobalt onto an iminodiacetic-type ion exchange resin that was initially in the sodium form. By measuring their width it is possible to calculate metal load on the basis of the local equilibrium assumption by using an equilibrium model for multimetallic systems. A kinetic pseudohomogeneous model has been developed which considers two successive mechanisms: first, diffusion of metal ions through the reacted layer, and second, metal-metal displacement from the solid phase. (Author abstract) 24 Refs.

Descriptors: Ion exchange; Reaction kinetics; Microscopic examination; Copper; Cobalt; Ion exchange resins; Diffusion; Ions; Mathematical models; **Calculations**

Identifiers: Bimetallic ion exchange system; Kinetic analysis; Metal load ; Equilibrium model

Classification Codes:

802.2 (Chemical Reactions); 741.3 (Optical Devices & Systems); 544.1

(Copper); 549.3 (Others, including Bismuth, Boron, Cadmium, Cobalt, Mercury, Niobium, Selenium, Silicon, Tellurium & Zirconium); 802.1 (Chemical Plants & Equipment); 921.6 (Numerical Methods)
  802 (Chemical Apparatus & Plants); 741 (Optics & Optical Devices); 544 (Copper & Alloys); 549 (Nonferrous Metals & Alloys); 921 (Applied Mathematics)
  80 (CHEMICAL ENGINEERING); 74 (OPTICAL TECHNOLOGY); 54 (METAL GROUPS); 92 (ENGINEERING MATHEMATICS)

  17/5/8   (Item 8 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)
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03413897   E.I. Monthly No: EIM9204-016928
  Title: Implicit finite difference solution of phase change problems via coupling the enthalpy and moving   boundary .
  Author: Zeng, X.; Xin, M. D.
  Corporate Source: Chongqing Univ, Chongqing, China
  Conference Title: 28th National Heat Transfer Conference
  Conference Location: Minneapolis, MN, USA   Conference Date: 19910728
  Sponsor: ASME, Heat Transfer Div
  E.I. Conference No.: 15208
  Source: Phase Change Heat Transfer - 1991 American Society of Mechanical Engineers, Heat Transfer Division, (Publication) HTD v 159. Publ by ASME, New York, NY, USA. p 47-52
  Publication Year: 1991
  CODEN: ASMHD8   ISSN: 0272-5673   ISBN: 0-7918-0728-2
  Language: English
  Document Type: PA; (Conference Paper)   Treatment: T; (Theoretical)
  Journal Announcement: 9204

  Abstract: Phase Change problems arise in a large number of applications including melting and solidification. The conventional treatment is the enthalpy method in which the **moving** interface is not **simultaneously** tracked but located a posteriori from interpolation or extrapolation of the calculated temperature values. In this paper an implicit finite difference solution of multidimensional phase change problems is developed and presented by **means** of coupling the enthalpy and **moving boundary** . The solution is based on separation of sensible and latent heat terms in an enthalpy **formulation** . By introducing the concepts of directional phase change ratio and volume phase change ratio, making the assumption of straight line phase interface, and improving the representation of heat flux density in the control volume containing the **moving boundary** , the sensible specific enthalpy (temperature) and **moving boundary** are coupled in a nonlinear system of discretized equations. Finally, the results of two test problems with different characteristics are given that show the effect of the present method. (Author abstract) 21 Refs.
  Descriptors: *HEAT TRANSFER--*Analysis; MATHEMATICAL TECHNIQUES--Finite Difference Method; THERMODYNAMICS
  Identifiers: PHASE CHANGE PROBLEMS; ENTHALPY METHOD; IMPLICIT FINITE DIFFERENCE SOLUTION; VOLUME PHASE CHANGE RATIO
  Classification Codes:
  641 (Heat & Thermodynamics); 921 (Applied Mathematics)
  64 (HEAT & THERMODYNAMICS); 92 (ENGINEERING MATHEMATICS)

  17/5/9   (Item 9 from file: 8)
DIALOG(R)File   8:Ei Compendex(R)
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02864850   E.I. Monthly No: EIM9002-009267
  Title: Artifact detection in sleep EEG recording.
  Author: Lima, P.; Leitao, J.; Paiva, T.
  Corporate Source: Centro de Analise e Processamento de Sinais/Instituto Superior Tecnico, Lisbon, Port
  Conference Title: Mediterranean Electrotechnical Conference (MELECON'89) - Proceedings
  Conference Location: Lisbon, Portugal   Conference Date: 19890411

Abstract: An investigation was conducted with the aim of achieving a
completely automatic detection of artifacts resulting from muscular
activity and ocular **movements** superimposed on an electroencephalogram
(EEG) signal. Muscular artifacts were detected by a pattern-recognition
approach; different features were tested to achieve reliable and real-time
results. Pattern classes were constructed based on selected features and
using the **K - means clustering algorithm** . Fisher's linear
discriminant, Mahalanobis distance, and the Q-NN rule were the methods
tested within the task of supervised classification, using the pattern
classes found in the **clustering** step. Ocular artifacts were detected by
an **algorithm** which compares **simultaneously** recorded EOG
(electrooculogram) and EEG signals. Whenever a significant correlation
between them is found, an ocular artifact is detected. If one or both of
those artifact types are detected, the actual segment is replaced by an EEG
simulation using an AR (autoregressive) modeled system driven by Gaussian
white noise at its input. 5 Refs.
Descriptors: *BIOMEDICAL ENGINEERING--*Electroencephalography; PATTERN
RECOGNITION; SIGNAL FILTERING AND PREDICTION
Identifiers: SLEEP EEG RECORDING; ARTIFACT DETECTION; MUSCULAR ARTIFACTS;
MAHALANOBIS DISTANCE; OCULAR ARTIFACTS; **CLUSTERING**
Classification Codes:
461   (Biotechnology); 723   (Computer Software); 731   (Automatic Control
Principles)
46   (BIOENGINEERING); 72   (COMPUTERS & DATA PROCESSING); 73   (CONTROL
ENGINEERING)

17/5/10   (Item 1 from file: 35)

01777731 ORDER NO: AADAA-I9989773
Simultaneous **multi-frame subpixel** boundary **definition using
toboggan-based intelligent scissors for image and movie editing**
Author: Mortensen, Eric Nephi
Degree: Ph.D.
Year: 2000
Corporate Source/Institution: Brigham Young University (0022)
Adviser: William A. Barrett
Source: VOLUME 61/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
          PAGE 5411. 273 PAGES
Descriptors: COMPUTER SCIENCE
Descriptor Codes: 0984
ISBN: 0-599-97795-7

Intelligent Scissors is an interactive image segmentation tool that
allows a user to select piece-wise globally optimal contour segments (based
on an optimal path search in a graph) that correspond to a desired object
boundary . This dissertation uses tobogganing to raise the granularity of
the image primitive above the pixel level, producing a region-based basic
processing unit that is object- **centered** rather than device-dependent. The
resulting region-based elements form the basis for several contributions to
the field of computer vision general and to Intelligent Scissors in
particular. These contributions reduce the human time and effort needed for
object selection with Intelligent Scissors while **simultaneously**
increasing the accuracy of **boundary** definition.
The region-based image primitives resulting from tobogganing form the

basis for a graph **formulation** that is many times smaller than the
pixel-based graph used previously by Intelligent Scissors, thus providing
faster, more interactively responsive optimal path computations. The
object- **centered** atomic units also provide an efficient and consistent
framework in which to compute a 4-parameter edge model, allowing subpixel
boundary localization, noise-independent edge blur adjustment, and
automatic alpha matte generation and color separation of **boundary**
transition pixels. The increased size of the basic processing unit also
facilitates an edge confidence measure that forms the basis for two new
techniques called <italic>confidence threshold snapping</italic> and
<italic> live-wire path extension</italic>, which further reduce the human
burden involved with object **boundary** definition by automatically finding
and following object **boundaries** . Finally, this dissertation presents a
new paradigm for **simultaneously** interacting with multiple frames from a
temporal image sequence by parallelizing both the user input and the
interactive visual feedback, thus allowing a user to interact with a
montage of image frames in order to define the **boundary** of a **moving**
object while adhering to the same interactive style that has demonstrated
to be effective for the single-image Intelligent Scissors.

17/5/11   (Item 2 from file: 35)
DIALOG(R)File   35:Dissertation Abs Online
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01681742   ORDER NO: AAD99-14723
INSTRUCTION SCHEDULING AND FETCH MECHANISMS FOR CLUSTERED **VLIW PROCESSORS**
(CLUSTERED **MICROPROCESSORS)**
   Author: BANERJIA, SANJEEV
   Degree: PH.D.
   Year: 1998
   Corporate Source/Institution: NORTH CAROLINA STATE UNIVERSITY (0155)
   Chair: THOMAS M. CONTE
   Source: VOLUME 59/12-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
            PAGE 6376. 121 PAGES
   Descriptors: COMPUTER SCIENCE
   Descriptor Codes: 0984

      The design of high-performance microprocessors involves the use of
innovative architectural and micro-architectural techniques and aggressive
technology. As issue widths increase to enable greater degrees of
instruction-level parallelism (ILP), the number of ports on the register
file must also increase to allow all operations that are issued
simultaneously to read and write their operands. However, it is difficult
to construct a register file with a large number of read ports without
stretching the cycle time of the processor. An alternative is to build
processors that use multiple, disjoint register files instead of **central** ,
monolithic ones. Sets of register files and functional units (FU) can be
grouped together as <italic> **clusters** </italic>, such that multiple
clusters constitute the entire processor.
      When an operation executing on a **clustered** processor requires
(register) source operands that reside on different **clusters** , some form
of inter- **cluster** communication must be used so that the operation can
read its source operands. For a VLIW architecture, the compiler must manage
the data **movements** between the **clusters** . As a **clustered** organization
becomes more important in the design of present-day processors, especially
VLIW processors, compiler technology must manage the intercluster data
movements . This thesis explores three key issues germane to the design of
clustered processors:
      <italic> **Cluster** scheduling</italic>. This is the compile-time
scheduling of inter- **cluster** data **movements** . The most prominent prior
work in the area is the Bottom-up Greedy (BUG) **algorithm** from Ellis's PhD
work and used in the compiler for the Multiflow TRACE family of commercial
VLIW machines. A new **algorithm** is presented that performs the assignment
of operations to **clusters** and schedules all operations and data
movements within a single compiler phase. The **algorithm** is named
Unified-Assign-and-Schedule or UAS. The **algorithm** is shown to be
effective at producing high-performance code schedules with less code

expansion than BUG.

<italic>Evaluating different **clustered** machine models</italic>. A wide variety of machine models can be used when implementing a **clustered** processor. However, certain configurations are certainly more appropriate than others. A range of machine models are simulated to gauge what models are best-suited as **clustered** processors.

<italic>Instruction fetch for **clustered** processors</italic>. Fetching instructions across a wide **clustered** machine is not as straightforward as on a non-**clustered** machine. However, there are issues common to both types of machines. I-fetch for non-**clustered** VLIWs is presented to highlight the critical points. One important issue is how branch operations are executed on a **clustered** VLIW machine. The Prepare-To-Branch (PBR) branch architecture is reviewed and applied to the address the problem of a taken-branch penalty. Two hardware structures, the NextPC queue and the Parallel NextPC (P-NextPC) queue, are introduced as mechanisms that permit maximum compiler scheduling freedom for the PBR architecture. Also, b-caches (branch caches) and branch replication are described as methods for overcoming the latency for transmitting a PC across a **clustered** machine.

The thesis concludes by discussing ideas for future work in the three areas.

17/5/12   (Item 3 from file: 35)
DIALOG(R)File   35:Dissertation Abs Online
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917938   ORDER NO: AAD86-10935
ADAPTIVE FINITE ELEMENT ANALYSIS OF NONLINEAR FRICTIONAL CONTACT WITH MIXED EULERIAN-LAGRANGIAN COORDINATES
   Author: HARIANDJA, BINSAR HALOMOAN
   Degree: PH.D.
   Year: 1986
   Corporate Source/Institution: UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN (0090)
   Source: VOLUME 47/03-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
             PAGE 1179. 178 PAGES
   Descriptors: ENGINEERING, CIVIL
   Descriptor Codes: 0543

    This work is concerned with new computational methods for the analysis of frictional contact problems. Several new computational techniques are employed. The new techniques are first presented in their generic form, before specialization to the problem of contact analysis. A new finite element model based on a mixed Eulerian-Lagrangian kinematic description is reviewed. The mixed kinematic model treats both initial and deformed nodal coordinates as unknowns. This feature enables the element mesh to adaptively adjust to **moving boundary** conditions. A consistent finite element technique for the recovery of surface tractions and distributed reactions is reviewed. This technique is combined with the adaptive capability of the Eulerian-Lagrangian model to **formulate** the sensitivity of computed surface tractions to changes in the finite element grid geometry.
        A new topological description of the frictional contact problem is introduced, in which criteria involving the contact stresses are used to define the locations of transition contours separating zones of different contact behavior (stick, slip, separation). A solution to the contact problem is obtained by determining transition contour locations and an associated displacement solution that **simultaneously** satisfy the transition stress criteria, the special contact **boundary** conditions and the usual equilibrium, compatibility and material behavior constraints.
        The new computational techniques and the topological contact problem definition are combined to create novel finite element solution **algorithms** . Contact analysis is treated as a bi-level programming problem. The upper-level problem involves the determination of contour locations that minimize residuals associated with the transition stress criteria. The subordinate problem involves satisfaction of the equilibrium and kinematic requirements by minimization of an energy functional or an equivalent

weighted residuals probl●'

     Two frictional contact **algorithms** are presented. The first **algorithm** determines the contact zone topology and geometry by **means** of a heuristic iterative analysis. The second **algorithm** uses adaptive Eulerian-Lagrangian remeshing to determine precise transition contour locations for a predetermined contact zone topology. The two **algorithms** can be applied in sequence to obtain automatic and accurate contact solutions. Example problems involving large deformations, curved contact surfaces and cyclic loading are included.

17/5/13   (Item 1 from file: 2)

6356570   INSPEC Abstract Number: C1999-10-1230D-106
 Title: **Massively parallel probabilistic reasoning with Boltzmann machines**
  Author(s): Myllymaki, P.
  Author Affiliation: Dept. of Comput. Sci., Helsinki Univ., Finland
  Journal: Applied Intelligence: The International Journal of Artificial Intelligence, Neural Networks, and Complex Problem-Solving Technologies vol.11, no.1   p.31-44
  Publisher: Kluwer Academic Publishers,
  Publication Date: July-Aug. 1999 Country of Publication: Netherlands
  CODEN: APITE4   ISSN: 0924-669X
  SICI: 0924-669X(199907/08)11:1L.31:MPPR;1-H
  Material Identity Number: O515-1999-003
  U.S. Copyright Clearance Center Code: 0924-669X/99/$9.50
  Language: English   Document Type: Journal Paper (JP)
  Treatment: Theoretical (T)
  Abstract: We present a method for mapping a given Bayesian network to a Boltzmann machine architecture, in the sense that the the **updating** process of the resulting Boltzmann machine model probably converges to a state which can be mapped back to a maximum a posteriori (MAP) probability state in the probability distribution represented by the Bayesian network. The Boltzmann machine model can be implemented efficiently on massively parallel hardware, since the resulting structure can be divided into two separate **clusters** where all the nodes in one **cluster** can be **updated** **simultaneously** . This **means** that the proposed mapping can be used for providing Bayesian network models with a massively parallel probabilistic reasoning module, capable of finding the MAP states in a computationally efficient manner. From the neural network point of view, the mapping from a Bayesian network to a Boltzmann machine can be seen as a method for automatically determining the structure and the connection weights of a Boltzmann machine by incorporating high-level, probabilistic information directly into the neural network architecture, without recourse to a time-consuming and unreliable learning process. (63 Refs)
  Subfile: C
  Descriptors: belief networks; Boltzmann machines; computational complexity; inference mechanisms; parallel **algorithms**
  Identifiers: massively parallel probabilistic reasoning; Bayesian network ; Boltzmann machine architecture; maximum a posteriori probability state; MAP probability state; massively parallel probabilistic reasoning module; computational efficiency; high-level probabilistic information; neural network architecture
  Class Codes: C1230D (Neural nets); C1160 (Combinatorial mathematics); C1230R (Reasoning and inference in AI); C4240P (Parallel programming and algorithm theory); C4240C (Computational complexity)

17/5/14   (Item 2 from file: 2)

6167959   INSPEC Abstract Number: C1999-03-6160Z-019
 Title: **Scaling** clustering algorithms **to large databases**

Author(s): Bradley, P.S.; Fayyad, U.; Reina, C.
Author Affiliation: Microsoft Res., Redmond, WA, USA
Conference Title: Proceedings Fourth International Conference on Knowledge Discovery and Data Mining   p.9-15
Editor(s): Agrawal, R.; Stolorz, P.
Publisher: AAAI Press, Menlo Park, CA, USA
Publication Date: 1998 Country of Publication: USA   xii+382 pp.
ISBN: 1 57735 070 7   Material Identity Number: XX-1998-02231
Conference Title: Proceedings of the Fourth International Conference on Knowledge Discovery and Data Mining
Conference Date: 27-31 Aug. 1998   Conference Location: New York, NY, USA
Language: English   Document Type: Conference Paper (PA)
Treatment: Practical (P)

Abstract: Practical **clustering** **algorithms** require multiple data scans to achieve convergence. For large databases, these scans become prohibitively expensive. We present a scalable **clustering** framework applicable to a wide class of iterative **clustering** . We require at most one scan of the database. In this work, the framework is instantiated and numerically justified with the popular **K - Means** **clustering** **algorithm** . The method is based on identifying regions of the data that are compressible, regions that must be maintained in memory, and regions that are discardable. The **algorithm** operates within the confines of a limited memory buffer. Empirical results demonstrate that the scalable scheme outperforms a sampling based approach. In our scheme, data resolution is preserved to the extent possible based upon the size of the allocated memory buffer and the fit of current **clustering** model to the data. The framework is naturally extended to **update** multiple **clustering** models **simultaneously** . We empirically evaluate on synthetic and publicly available data sets. (29 Refs)
Subfile: C
Descriptors: data handling; data mining; pattern **clustering** ; very large databases
Identifiers: **clustering** **algorithm** scaling; large databases; practical **clustering** **algorithms** ; multiple data scans; scalable **clustering** framework; iterative **clustering** ; database scanning; numerical justification; **K - Means** **clustering** **algorithm** ; limited memory buffer; scalable scheme; sampling based approach; data resolution; allocated memory buffer; multiple **clustering** models; publicly available data sets
Class Codes: C6160Z (Other DBMS); C6170K (Knowledge engineering techniques); C1250 (Pattern recognition); C6130 (Data handling techniques)

17/5/15   (Item 3 from file: 2)

6034726   INSPEC Abstract Number: B9811-6430H-001, C9811-5260B-088
 Title: **MPEG-4 based interactive video using** parallel processing
Author(s): Yong He; Ahmad, T.; Liou, M.L.
Author Affiliation: Dept. of Electr. & Electron. Eng., Hong Kong Univ. of Sci. & Technol., Hong Kong
Conference Title: Proceedings. 1998 International Conference on Parallel Processing (Cat. No.98EX205)   p.329-36
Editor(s): Lai, T.H.
Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA
Publication Date: 1998 Country of Publication: USA   xix+630 pp.
ISBN: 0 8186 8650 2   Material Identity Number: XX98-02390
U.S. Copyright Clearance Center Code: 0190 3918/98/$10.00
Conference Title: Proceedings 1998 International Conference on Parallel Processing
Conference Sponsor: Inst. Assoc. Comput. & Commun.; Ohio State Univ
Conference Date: 10-14 Aug. 1998   Conference Location: Minneapolis, MN, USA
Language: English   Document Type: Conference Paper (PA)
Treatment: Applications (A); Practical (P)

Abstract: MPEG-4 which is currently being developed by MPEG (**Moving** Pictures Experts **Group**), is poised to become a standard for supporting current and emerging interactive multimedia applications. The objective of MPEG-4 is to support content-based compression, communication, access and manipulation of digital objects which can be natural or synthetic. Since MPEG-4 based video consists of objects and provides full interactivity between the client and the server, a software-based implementation seems to be the only viable approach for building an MPEG-4 encoder. **Parallel processing** solves the problem of large computational requirements for building a real-time encoder. In this paper, we describe a parallel implementation of MPEG-4 video encoder using a **cluster** of workstations collectively working as a virtual machine. Parallelization of the MPEG-4 encoder poses an interesting problem since not only can objects be added or deleted from a video scene but their sizes and shapes may vary with time. Moreover, some of the computationally intensive parts of the encoder are non-uniform **algorithms** , which **means** their execution times are data dependent and cannot be predicted in advance. In order to guarantee the spatio-temporal relationship between various objects in a video, we propose a real-time scheduling **algorithm** for exploiting parallelism in the temporal domain. The **algorithm** divides the workstations into a number of groups and assigns one video object to one group of workstations for encoding. A dynamic shape-adaptive data **partitioning** strategy is proposed to exploit parallelism in the spatial domain. The **partitioning** strategy divides the data of an object among the workstations within a group. The scheduling scheme ensures the synchronization requirements among multiple objects while the dynamic data parallel approach adapts to the object shape variations to balance the load for all the workstations. The performance of the encoder can scale according to the number of workstations used. With 20 workstations, the encoder yields an encoding rate higher than real-time, allowing to encode multiple sequences **simultaneously** . (24 Refs)
Subfile: B C
Descriptors: data compression; interactive video; multimedia systems; **parallel processing** ; synchronisation; video coding
Identifiers: MPEG-4 based interactive video; **parallel processing** ; **Moving** Pictures Experts **Group** ; interactive multimedia; content-based compression; digital objects manipulation; software-based implementation; MPEG-4 encoder; real-time encoder; **cluster** of workstations; virtual machine; spatio-temporal relationship; real-time scheduling **algorithm** ; dynamic shape-adaptive data **partitioning** strategy; synchronization requirements; dynamic data parallel approach; performance
Class Codes: B6430H (Video recording); B6120B (Codes); B6140C (Optical information, image and video signal processing); C5260B (Computer vision and image processing techniques); C5220P (Parallel architecture); C6150N (Distributed systems software); C6130M (Multimedia)

17/5/16   (Item 4 from file: 2)

6022029   INSPEC Abstract Number: A9820-4760-010
 Title: **Unsteady flow of an axisymmetric annular film under gravity**
Author(s): Housiadas, K.; Tsamopoulos, J.
Author Affiliation: Dept. of Chem. Eng., Patras Univ., Greece
Abstract: The unsteady flow of an annular and axisymmetric film under gravity is examined. This **moving boundary** problem is solved by mapping the inner and the outer interface of the film in the radial direction onto

fixed ones and by transforming the governing equations accordingly. The ratio of the film thickness to its inner radius at the exit of the die is small in relevant processes with polymer melts. This ratio, epsilon , is used as the small parameter in a perturbation expansion of the general Navier-Stokes equations. Forces applied on the film include gravity, surface tension, inertia, and viscous forces. Their ratios give rise to three dimensionless numbers, St, Ca, and Re. When these dimensionless numbers are up to order one, the base state is quite deformed and it is calculated numerically by **simultaneously** solving three nonlinear partial differential equations in time and the axial direction. Intuitively it is expected that when the dimensionless numbers are small the base state in the perturbation scheme is a uniformly falling film. This is confirmed by analysis and the two next orders in the perturbation scheme are calculated analytically. In both cases, it was found that increasing the St number (i) accelerates the downward motion of the film, (ii) deflects its inner and outer surfaces towards its axis of symmetry, and (iii) decreases its thickness around the **middle** of its length. The latter effect may lead to breakup of the film in two parts. It was also found that increasing the Ca number deflects these two interfaces towards its axis of symmetry and increases its thickness monotonically with time and the axial distance. Increasing the Re number from zero, but to not very large values, generally decelerates the film and decreases its deflection from the vertical. Given typical fluid properties and process conditions the St number is up to O(epsilon /sup 0/), i.e., much larger than the other two dimensionless numbers, and affects the film shape more significantly. (21 Refs)
   Subfile: A
   Descriptors: flow instability; Navier-Stokes equations; nonlinear differential equations; partial differential equations; pipe flow; polymer melts; surface tension
   Identifiers: unsteady flow; axisymmetric annular film; gravity; **moving boundary** problem; governing equations; polymer melts; perturbation expansion; general Navier-Stokes equations; surface tension; inertia; viscous forces; numerical **calculation** ; nonlinear partial differential equations; perturbation scheme; analytical **calculation** ; fluid properties
   Class Codes: A4760 (Flows in ducts, channels, and conduits); A4720 (Hydrodynamic stability and instability); A4750 (Non-Newtonian dynamics); A6810C (Fluid surface energy (surface tension, interface tension, angle of contact, etc.))
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   17/5/17   (Item 5 from file: 2)
   Title: Quantitative analysis of MR brain image sequences by adaptive self-organizing finite mixtures
   Author(s): Yue Wang; Adali, T.; Chi-Ming Lau; Sun-Yuan Kung
   Author Affiliation: Dept. of Electr. Eng. & Comput. Sci., Catholic Univ. of America, Washington, DC, USA
   Abstract: This paper presents an adaptive structure self-organizing finite mixture network for quantification of magnetic resonance (MR) brain image sequences. We present justification for the use of standard finite normal mixture model for MR images and **formulate** image quantification as a distribution learning problem. The finite mixture network parameters are **updated** such that the relative entropy between the true and estimated

distributions is minim▮▮d. The new learning scheme▮▮hieves flexible
classifier **boundaries** by forming winner-takes-in probability splits of
the data allowing the data to contribute **simultaneously** to multiple
regions. Hence, the result is unbiased and satisfies the asymptotic
optimality properties of maximum likelihood. To achieve a fully automatic
quantification procedure that can adapt to different slices in the MR image
sequence, we utilize an information theoretic criterion that we have
introduced recently, the minimum conditional bias/variance (MCBV)
criterion. MCBV allows us to determine the suitable number of mixture
components to represent the characteristics of each image in the sequence.
We present examples to show that the new method yields very efficient and
accurate performance compared to expectation-maximization, **K - means** , and
competitive learning procedures. (35 Refs)
   Subfile: A B C
   Descriptors: Bayes methods; biomedical NMR; brain; image classification;
image segmentation; image sequences; maximum entropy methods; maximum
likelihood estimation; medical image processing; neural nets; unsupervised
learning
   Identifiers: MRI brain image sequences; quantitative analysis; adaptive
self-organizing finite mixtures; standard finite normal mixture model;
image quantification; distribution learning problem; minimized relative
entropy; estimated distributions; true distributions; flexible classifier
boundaries ; winner-takes-in probability splits; multiple regions;
asymptotic optimality properties; maximum likelihood; fully automatic
quantification procedure; information theoretic criterion; minimum
conditional bias/variance criterion; number of mixture components;
unsupervised scheme; image statistics; stochastic model; pixel
classification; incremental stochastic learning **algorithm** ; Bayesian soft
splits; ergodic theorem; maximum entropy
   Class Codes: A8760I (Medical magnetic resonance imaging and spectroscopy)
; A8740 (Biomagnetism); A8770E (Patient diagnostic methods and
instrumentation); A0250 (Probability theory, stochastic processes, and
statistics); A0650D (Data gathering, processing, and recording, data
displays including digital techniques); B7510B (Radiation and radioactivity
applications in biomedicine); B6140C (Optical information, image and video
signal processing); B6110 (Information theory); B0240Z (Other topics in
statistics); C7330 (Biology and medical computing); C5260B (Computer
vision and image processing techniques); C1250 (Pattern recognition);
C1260 (Information theory); C1230D (Neural nets); C5290 (Neural computing
techniques); C1140Z (Other topics in statistics)
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   17/5/18   (Item 6 from file: 2)
DIALOG(R)File   2:INSPEC
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5259322   INSPEC Abstract Number: A9611-4328-002, C9606-7320-087
   Title: A new efficient algorithm **for computational aeroacoustics on**
parallel processors
   Author(s): Ozyoruk, Y.; Long, L.N.
   Author Affiliation: Dept. of Aerosp. Eng., Pennsylvania State Univ.,
University Park, PA, USA
   Journal: Journal of Computational Physics   vol.125, no.1   p.135-49
   Publisher: Academic Press,
   Publication Date: April 1996 Country of Publication: USA
   CODEN: JCTPAH   ISSN: 0021-9991
   SICI: 0021-9991(199604)125:1L.135:EACA;1-E
   Material Identity Number: J039-96005
   U.S. Copyright Clearance Center Code: 0021-9991/96/$18.00
   Language: English   Document Type: Journal Paper (JP)
   Treatment: Theoretical (T)
   Abstract: One of the great challenges in computational physics is the
prediction of flow associated noise, where the quantities of interest,
namely the sound waves can be at high frequencies and are usually orders of
magnitude smaller in magnitude than the **mean** quantities. In order to
numerically resolve such small scales governed by the fluid dynamics
equations, high resolution schemes are required. Thus solutions of flow

noise problems are computationally intensive. An efficient, hybrid, data parallel computational aeroacoustics **algorithm** has been developed for the prediction of noise radiation and scattering from three-dimensional geometries. The **algorithm** solves the Euler/Navier-Stokes equations in the interior and nonreflecting **boundary** conditions on the outer **boundaries** . A **moving** surface Kirchhoff method is coupled to the flow solver for far-field predictions. The **algorithm** uses standard time and spatial discretization techniques but utilizes several new optimization strategies that are highly suitable for single zone solutions on data **parallel processors** . One strategy, for example, enables **simultaneous** residual evaluations of the interior and far-field nonreflecting **boundary** conditions equations, reducing the computational effort spent on them by approximately 60% CPU time savings. The **algorithms** for the flow solver and the Kirchhoff method and their coupling are described in this paper, and results for some example radiation and scattering problems are presented. (29 Refs)
  Subfile: A C
  Descriptors: aeroacoustics; parallel **algorithms** ; physics computing
  Identifiers: computational aeroacoustics; **parallel processors** ; computational physics; flow associated noise; fluid dynamics equations; flow noise problems; Navier-Stokes equations; nonreflecting **boundary** conditions; **moving** surface Kirchhoff method; far-field predictions; spatial discretization techniques; data **parallel processors**
  Class Codes: A4328 (Aeroacoustics and atmospheric sound); A4725M (Noise (turbulence generated)); C7320 (Physics and chemistry computing); C4240P (Parallel programming and algorithm theory); C6110P (Parallel programming)
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17/5/19   (Item 7 from file: 2)
DIALOG(R)File   2:INSPEC
(c) 2003 Institution of Electrical Engineers. All rts. reserv.

04151911   INSPEC Abstract Number: A9212-9260-067
  Title: A hierarchical stochastic model of large-scale atmospheric circulation patterns and multiple station daily precipitation
  Author(s): Wilson, L.L.; Lettenmaier, D.P.; Skyllingstad, E.
  Author Affiliation: Dept. of Civil Eng., Washington Univ., Seattle, WA, USA
  Journal: Journal of Geophysical Research   vol.97, no.D3   p.2791-809
  Publication Date: 28 Feb. 1992   Country of Publication: USA
  CODEN: JGREA2 ISSN: 0148-0227
  U.S. Copyright Clearance Center Code: 0148-0227/92/91JD-02155$05.00
  Conference Title: Chapman Conference on Hydrologic Aspects of Global Climate Change
  Conference Date: 12-14 June 1990   Conference Location: Lake Chelan, WA, USA
  Language: English   Document Type: Conference Paper (PA); Journal Paper (JP)
  Treatment: Theoretical (T)
  Abstract: A stochastic model of weather states and **concurrent** daily precipitation at multiple precipitation stations is described. Four **algorithms** are investigated for classification of daily weather states: **k - means clustering** , fuzzy **clustering** , principal components, and principal components coupled with **k - means clustering** . A semi-Markov model with a geometric distribution for within-class lengths of stay is used to describe the evolution of weather classes. A hierarchical modified Polya urn model is used to simulate precipitation conditioned on the regional weather type. An information measure that considers both the probability of weather class occurrence and conditional precipitation probabilities is developed to quantify the extent to which each of the weather classification schemes discriminates the precipitation states (rain-no rain) at the precipitation stations. The model is implemented using National Meteorological **Center** historical atmospheric observations for the period 1964-1988 mapped to 5 degrees *5 degrees grid cells over the eastern North Pacific, and three precipitation stations west of the Cascade mountain range in the state of Washington. (58 Refs)
  Subfile: A

Descriptors: atmospher● movements ; atmospheric preci●ation
    Identifiers: USA; AD 1964 to 1988; hierarchical stochastic model;
large-scale atmospheric circulation patterns; multiple station daily
precipitation; weather states; **k - means clustering** ; fuzzy **clustering**
; principal components; Markov model; Polya urn model; weather
classification schemes; rain; eastern North Pacific; Washington
    Class Codes: A9260B (General circulation); A9260J (Water in the
atmosphere (humidity, clouds, evaporation, precipitation))

   17/5/20   (Item 8 from file: 2)
DIALOG(R)File   2:INSPEC

03847347   INSPEC Abstract Number: A91047883
    **Title: Method of solving an internal two-phase Stefan problem with a
nonlinear boundary condition**
    Author(s): Medvedskii, R.I.; Sigunov, Yu.A.
    Journal: Teplofizika Vysokikh Temperatur   vol.28, no.2   p.291-300
    Publication Date: March-April 1990   Country of Publication: USSR
    CODEN: TVYTAP   ISSN: 0040-3644
    Translated in: High Temperature   vol.28, no.2   p.217-26
    Publication Date: March-April 1990   Country of Publication: USA
    CODEN: HITEA4   ISSN: 0018-151X
    U.S. Copyright Clearance Center Code: 0018-151X/90/2802-0217$12.50
    Language: English   Document Type: Journal Paper (JP)
    Treatment: Theoretical (T)
    Abstract: A method is proposed which makes it possible to **simultaneously**
 determine the phase **boundary** and the temperature on the surface of
solids of simple form (slabs, cylinders, and spheres) by solving a system
of two ordinary differential equations. A method is described for
estimating the lower and upper bounds of the velocity of the front. These
estimates are then used to estimate the error of the method. Approximations
are presented for the **mean** temperature of the internal region, which is
used to express the component of heat flux on the **moving boundary** . The
method considers the lag in phase transformation when heat exchange with
the environment is nonlinear. With the solidification of castings as an
example, a comparison is made between the solutions obtained by the
proposed method and **calculations** performed by the difference method. The
two methods agree well. (12 Refs)
    Subfile: A
    Descriptors: heat transfer
    Identifiers: surface temperature; lower bounds; front velocity; nonlinear
heat exchange; internal two-phase Stefan problem; nonlinear **boundary**
condition; phase **boundary** ; slabs; cylinders; spheres; ordinary
differential equations; upper bounds; **mean** temperature; internal region;
heat flux; **moving boundary** ; phase transformation; solidification;
castings; difference method
    Class Codes: A4725Q (Convection and heat transfer)

   17/5/21   (Item 9 from file: 2)
DIALOG(R)File   2:INSPEC

03608210   INSPEC Abstract Number: A90061000
    Title: The theory of the drift of ions in a gas
    Author(s): Jones, J.E.
    Author Affiliation: Sch. of Math., Univ. of Wales Coll. of Cardiff, UK
    Journal: Journal of Physics D (Applied Physics)   vol.23, no.2   p.
164-74
    Publication Date: 14 Feb. 1990 Country of Publication: UK
    CODEN: JPAPBE ISSN: 0022-3727
    U.S. Copyright Clearance Center Code: 0022-3727/90/020164+11$03.50
    Language: English   Document Type: Journal Paper (JP)
    Treatment: Theoretical (T)
    Abstract: This paper considers the general theory of the time-dependent
drift of ions in a gas under the action of their own electric field

together with any externally imposed electric field. The mean free path is taken as small enough for the macroscopic **movement** of the ions to be in the direction of the field. Diffusion is ignored and the currents are quantified by the use of mobility coefficients. A charge-drift equation originally given by Waters (1970) is generalised for multiple ionic species, and it is shown how ionisation can be taken into account. Characteristic times of approach to the asymptotic state when the charge density varies inversely with time are considered. The problem of the general motion of a charged cloud of many species of ions has been **formulated** . This gives rise to **simultaneous** integro-differential equations with **moving boundaries** . An alternative approach using field theory is shown to give a simple linear law of volumar expansion with time. This holds for all cases when a single mobility coefficient is appropriate. The asymptotic shape of a simple cloud of ionic charge is proved to be a sphere. Modifications to this when the volume is multiply connected and when many ionic species are present are discussed. The rate of transfer of the electrical field energy (power loss) to the thermodynamic energy of the gas is considered. This results in a variational principle being identified from a physical basis which is equivalent to the charge-drift equation. The **movement** of either single or multiple ionic species can' be treated by this approach which could form the basis of a new finite-element method for problems involving the drift of gaseous ions. (10 Refs)

Subfile: A
Descriptors: ion mobility; variational techniques
Identifiers: ion drift; gas; electric field; mobility coefficients; charge-drift equation; ionisation; charged cloud; integro-differential equations; field theory; power loss; thermodynamic energy; variational principle; finite-element method
Class Codes: A5150 (Electrical phenomena in gases)

17/5/22 (Item 1 from file: 94)
DIALOG(R)File 94:JICST-EPlus
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00698799 JICST ACCESSION NUMBER: 88A0564572 FILE SEGMENT: JICST-E
Deformation of merged Voronoi diagrams with translation.
TOKUYAMA T (1)
(1) IBM Research, Tokyo, JPN
Joho Shori Gakkai Kenkyu Hokoku, 1988, VOL.88,NO.36(AL-1), PAGE.1.2.1-1.2.8
, FIG.4, REF.8
JOURNAL NUMBER: Z0031BAO ISSN NO: 0919-6072
UNIVERSAL DECIMAL CLASSIFICATION: 681.3.01 681.3:621.397.3
LANGUAGE: English COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: A Voronoi diagram of **moving data points** is an interesting
target to apply to simulated deformation of planar subdivision. As a
special case, we consider the deformation of the topological structure
of a Voronoi diagram of points **moving** continuously in two groups. Let
P be a set of static points and Q(t) be a set of **moving** points with
time parameter t, where 0.LEQ.t. LEQ.T. The Voronoi diagram V(t) of the
point se P.UN.Q(t) is deformed as time passes. The history of V(t)
means the list of all "catastrophic epochs". In this paper, we give an
algorithm for processing the history of V(t) when Q(t) **moves** by
simultaneous translation. Our **algorithm** needs O(n2 lon n) time and
O(n2) space to store the history in order to retrieve the V(t) of any
epoch in linear time.(author abst.)
DESCRIPTORS: geometry; computer science; **algorithm** theory; computational
complexity; topology; catastrophe; computational geometry
BROADER DESCRIPTORS: mathematics; natural science; science; computation
theory; theory
CLASSIFICATION CODE(S): JB02000A; JE04000X

17/5/23 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

1449172 NTIS Accession Number: DE88706133
Perturbation Measurements in Reactor LR-0 and Their Evaluation
Rypar, W. ; Faehrmann, K. H.
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Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
Country of Publication: Czechoslovakia
To investigate space-dependent kinetic effects in reactors of the
WWER-1000 type, two **central** and one eccentric perturbation measurements
were performed in the zero power reactor LR-0 of the UJV Rez (CSSR) by
trapeze-form **movements** of an absorber **cluster** . The measurements were
based on a computer aided CAMAC system for the **simultaneous** data
acquisition of 20 spatially distributed neutron detectors and for **cluster**
movement control. The measurements were followed by a detailed
evaluation in the ZfK Rossendorf (GDR) with respect to the **calculation**
results of flux response obtained by nodal code HEXDYN3D, the aim of which
was to demostrate the limits of the point reactor model and to account for
space-dependent effects by approximative methods. A sensitive check of the
calculation methods was made possible especially by the eccentric
perturbation where the space dependent effects,due to a larger distance of
cluster **movement** , were most significant. (author). 17 figs., 9 refs.
(Atomindex citation 20:027074)
Descriptors: LR-0 Reactor; *Reactor Kinetics; CAMAC System; Computer
Calculations ; Data Processing; Disturbances; Neutron Detection; Neutron
Flux; Reactivity; Simulation; Space Dependence; WWER Type Reactors
Identifiers: *Foreign technology; ERDA/220600; NTISINIS
Section Headings: 77K (Nuclear Science and Technology--Reactor Physics)

17/5/24   (Item 1 from file: 144)
DIALOG(R)File 144:Pascal
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12110283   PASCAL No.: 95-0340330
Segmentation of brain parenchyma and cerebrospinal fluid in multispectral
magnetic resonance images
LUNDEVOLD A; STORVIK G
Univ. bergen, sect. medical image analysis pattern recognition, 5009
Bergen, Norway
Journal: IEEE transactions on medical imaging, 1995, 14 (2) 339-349
ISSN: 0278-0062 CODEN: ITMID4 Availability: INIST-222Y;
354000050853460150
No. of Refs.: 56 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: USA
Language: English
This paper presents a new method to segment brain parenchyma and
cerebrospinal fluid spaces automatically in routine axial spin echo
multispectral MR images. The **algorithm** **simultaneously** incorporates
information about anatomical **boundaries** (shape) and tissue signature
(grey scale) using a priori knowledge. The head and brain are divided into
four regions and seven different tissue types. Each tissue type c is
modeled by a multivariate Gaussian distribution N(mu SUB c , SIGMA SUB c
). Each region is associated with a finite mixture density corresponding to
its constituent tissue types. Initial estimates of tissue parameters (mu
SUB c , SIGMA SUB c) SUB c SUB = SUB 1 SUB , SUB . SUB . SUB . SUB , SUB 7
are obtained from **k** - **means** **clustering** of a single slice used for
training. The first **algorithmic** step uses tbe EM- **algorithm** for

adjusting the initial ⬤issue parameter estimates to ⬤ MR data of new patients. The second step uses a recently developed model of dynamic contours to detect three simply closed nonintersecting curves in the plane, constituting the arachnoid/dura mater **boundary** of the brain, the border between the subarachnoid space and brain parenchyma, and the inner border of the parenchyma toward the lateral ventricles. The model, which is **formulated** by energy functions in a Bayesian framework, incorporates a priori knowledge, smoothness constraints, and **updated** tissue type parameters. Satisfactory maximum a posteriori probability estimates of the closed contour curves defined by the model were found using simulated annealing

English Descriptors: Parenchyma; Brain (vertebrata); Segmentation; Nuclear magnetic resonance imaging; Cerebrospinal fluid; **Algorithm** ; Experimental study

French Descriptors: Parenchyme; Encephale; Segmentation; Imagerie RMN; Liquide cephalorachidien; **Algorithme** ; Etude experimentale

Classification Codes: 002B24A06

17/5/25   (Item 1 from file: 434)
DIALOG(R)File 434:SciSearch(R) Cited Ref Sci
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08452824   Genuine Article#: K9587   Number of References: 146
Title: THE EMERGING PARADIGM OF COMPUTATIONAL VISION
Author(s): ZUCKER SW
Corporate Source: MCGILL UNIV,MCGILL RES CTR INTELLIGENT MACHINES/MONTREAL
    H3A 2T5/QUEBEC/CANADA/
Journal: ANNUAL REVIEW OF COMPUTER SCIENCE, 1987, V2, P69-89
Language: ENGLISH   Document Type: REVIEW, BIBLIOGRAPHY
Geographic Location: CANADA
Subfile: SciSearch; CC ENGI--Current Contents, Engineering, Technology &
    Applied Sciences
Journal Subject Category: COMPUTER APPLICATIONS & CYBERNETICS
Research Fronts: 86-1780 008   (APPARENT MOTION; ONE-EYED STEREO; TRACKING
    MODELED OBJECTS USING BINOCULAR IMAGES)
  86-0944 006   (INTRINSIC CONNECTIONS OF MACAQUE STRIATE CORTEX;
    SIMULTANEOUS COLOR CONSTANCY; SPATIAL VISION; LATERAL
    GENICULATE-NUCLEUS; SPATIAL-FREQUENCY DISCRIMINATION)
  86-6334 003   (PROBABILISTIC RELAXATION LABELING; COMPUTER VISION;
    SEGMENTATION METHODS; **PARALLEL   PROCESSING** ; COMPATIBILITY FUNCTIONS)
  86-0032 001   (LONG-RANGE ISING SPIN-GLASSES; SPIN-GLASS TRANSITION; SK
    MODEL; DYNAMIC **MEAN** -FIELD THEORY; DZYALOSHINSKY-MORIYA ANISOTROPY IN
    REENTRANT ALLOYS)
  86-0443 001   (COMPUTERIZED PATTERN-RECOGNITION; CUTICULAR HYDROCARBONS;
    IMPORTED FIRE ANTS)
  86-0759 001   (NEURAL NETWORKS; HOPFIELD MODEL; ASSOCIATIVE MEMORY
    MODELS)
  86-1627 001   (EXPERT SYSTEMS; ARTIFICIAL-INTELLIGENCE IN MEDICAL
    DIAGNOSIS; COMPREHENSIVE DECISION-SUPPORT SYSTEM)
  86-1629 001   (3-DIMENSIONAL OBJECTS; SOLID MODELING DATA-STRUCTURES;
    QUADTREE REPRESENTATION; LINEAR OCTREES; GEOMETRICAL TRANSFORMATIONS;
    CONSTRUCTIVE GEOMETRY)
  86-2891 001   (**MOVING   BOUNDARY** -PROBLEMS; LINEAR
    COMPLEMENTARITY-PROBLEMS; STEFAN PROBLEM; NETWORK MODELS;
    FINITE-ELEMENT METHOD; PHASE-CHANGE PROBLEMS)
  86-3031 001   (CAT DORSAL LATERAL GENICULATE-NUCLEUS; RETINAL
    GANGLION-CELLS; VISUAL DEPRIVATION; MONOCULARLY DEPRIVED KITTENS; CATS
    RETINA; VISUAL-CORTEX DEVELOPMENT)
  86-3859 001   (DIGITAL IMAGE-PROCESSING; MULTIPLE VIEWS; SOFTWARE SYSTEM)
  86-5559 001   (INTERACTIVE 3-DIMENSIONAL GRAPHICAL SYSTEM; GRAPHICS
    SOFTWARE PACKAGE; GRAPHIC **ALGORITHMS** ; COMPUTER VISION; 3D
    RECONSTRUCTION)
  86-7416 001   (FROG OPTIC TECTUM; EVOLUTION OF THE VISUAL BRAIN;
    RETINOTECTAL DEVELOPMENT; VERTEBRATE RETINA; MOTION DISCRIMINATION;

WERTHEIMER M, 1938, P301, PSYCHOL FORSCH
WILSON HR, 1979, V19, P19, VISION RES
WINOGRAD S, 1963, RELIABLE COMPUTATION
WITKIN A, 1983, HUMAN MACHINE VISION
WITKIN A, 1982, P36, P AAAI
WITKIN A, 1986, PIXELS PREDICATES
WITKIN AP, 1981, V17, P17, ARTIF INTELL
WOODHAM R, 1981, V17, P17, ARTIF INTELL
ZEKI S, 1985, V315, P322, NATURE
ZUCKER SW, 1985, V32, P74, COMPUT VISION GRAPH
ZUCKER SW, 1979, V9, P213, COMPUTER GRAPHICS IM
ZUCKER SW, 1986, V5, P121, HUMAN NEUROBIOLOGY
ZUCKER SW, 1976, V5, P419, PERCEPTION
ZUCKER SW, 1975, 4TH P INT JOINT C AR

17/5/26   (Item 1 from file: 34)

Title: Dynamical cluster **analysis of cortical fMRI activation**
Author(s): Baune A (REPRINT) ; Sommer FT; Erb M; Wildgruber D; Kardatzki B;
    Palm G; Grodd W
Corporate Source: UNIV TUBINGEN,DEPT NEURORADIOL, CNS, SECT EXPT MR/D-72076
    TUBINGEN//GERMANY/ (REPRINT); UNIV ULM,DEPT NEURAL INFORMAT
    PROC/D-89069 ULM//GERMANY/
Abstract: Localized changes in cortical blood oxygenation during voluntary
    movements were examined with functional magnetic resonance imaging
    (fMRI) and evaluated with a new dynamical **cluster** analysis (DCA)
    method, fMRI was performed during finger **movements** with eight
    subjects on a 1.5-T scanner using single-slice echo planar imaging with
    a 107-ms repetition time, **Clustering** based on similarity of the
    detailed signal time courses requires besides the used distance measure
    no assumptions about spatial location and extension of activation sites
    or the shape of the expected activation time course. We discuss the
    basic requirements on a **clustering algorithm** for fMRI data. It is
    shown that with respect to easy adjustment of the quantization error
    and reproducibility of the results DCA outperforms the standard h-
    means algorithm . In contrast to currently used **clustering** methods
    for fMRI, like **k - means** or fuzzy **k - means** , DCA extracts the
    appropriate number and initial shapes of representative signal time
    courses from data properties during run time. With DCA we
    simultaneously calculate a two-dimensional projection of **cluster**
    centers (MDS) and **data points** for online visualization of the
    results, We describe the new DCA method and show for the well-studied
    motor task that it detects cortical activation loci and provides
    additional information by discriminating different shapes and phases of
    hemodynamic responses. Robustness of activity detection is demonstrated
    with respect to repeated DCA runs and effects of different data
    preprocessing are shown. As an example of how DCA enables further
    analysis we examined activation onset times. In areas SMA, M1, and S1
    simultaneous and sequential activation (in the given order) was found.
    (C) 1999 Academic Press.
Descriptors--Author Keywords: functional MRI ; **cluster** analysis ;
    evaluation methods ; motor system
Identifiers--KeyWord Plus(R): PRINCIPAL-COMPONENT ANALYSIS; ECHO FUNCTIONAL
    MRI; HUMAN VISUAL-CORTEX; CEREBRAL-CORTEX; DATA SETS; **MOVEMENT;**
    BRAIN; TASK; QUANTIFICATION; LOCALIZATION
Cited References:

BANDETTINI PA, 1995, P335, DIFFUSION PERFUSION
BANDETTINI PA, 1993, V30, P161, MAGNET RESON MED
BANDETTINIPA, 1995, P335, DIFFUSION PERFUSION
BAUMGARTNER R, 1997, V7, P1094, JMRI-J MAGN RESON IM
BAUMGARTNER R, 1998, V16, P115, MAGN RESON IMAGING
BINDER JR, 1993, V3, P1383, P SMRM
BUCKNER RL, 1996, V93, P14878, P NATL ACAD SCI USA
COHEN MS, 1994, V17, P268, TRENDS NEUROSCI
CRAWLEY AP, 1995, P819, SMR ESMREMB BOOK ABS
DING X, 1994, V2, P630, P INT SOC MAGN RES 2
DUDA RO, 1973, PATTERN CLASSIFICATI
FORMAN SD, 1995, V33, P636, MAGNET RESON MED
FRISTON KJ, 1993, V13, P5, J CEREBR BLOOD F MET
GERLOFF C, 1996, V4, P199, HUM BRAIN MAPP
HAYKINS S, 1994, NEURAL NETWORKS COMP
JAIN A, 1988, ALGORITHMS CLUSTERIN
JARMASZ M, 1998, P2068, P INT SOC MAGN RES M
KIM SG, 1997, V37, P631, MAGNET RESON MED
LEBIHAN D, 1993, P11, SMR BOOK ABSTR
LEE AT, 1995, V33, P745, MAGNET RESON MED
MCKEOWN MJ, 1998, V6, P160, HUM BRAIN MAPP
MENON RS, 1998, V95, P10902, P NATL ACAD SCI USA
MOSER E, 1997, V7, P1102, JMRI-J MAGN RESON IM
NEAFSEY EJ, 1978, V44, P706, ELECTROEN CLIN NEURO
OGAWA S, 1990, V87, P9868, P NATL ACAD SCI USA
OKANO K, 1987, V66, P155, EXP BRAIN RES
PALM G, 1996, V2, P1009, CYBERNET SYST 96 VIE
RADEMACHER J, 1992, V4, P352, J COGNITIVE NEUROSCI
RICHTER W, 1997, V8, P1257, NEUROREPORT
SCHNELL R, 1994, GRAPHISCH GESTUTZTE
SCHWENKER F, 1996, P35, FINANZMARKTANALYSE P
SOMORJAI RL, 1997, V1, P354, P INT SOC MAGN RES M
STROTHER SC, 1995, V15, P353, J CEREBR BLOOD F MET
THALER DE, 1988, V93, P264, NEUROSCI LETT
TOFT P, 1997, V5, P456, 3 INT C FUNCT MAPP H
WILDGRUBER D, 1997, V227, P1, NEUROSCI LETT
WORSLEY KJ, 1992, V12, P900, J CEREB BLOOD FLOW M
WU D, 1994, P629, SMR BOOK ABSTR
XIONG J, 1995, V3, P287, HUM BRAIN MAPP
XIONG J, 1995, P827, SMR ESMREMB BOOK ABS

17/5/27   (Item 2 from file: 34)

07533856   Genuine Article#: 177TP   Number of References: 41
**Title: Mechanisms of thermo-solutal transport and segregation in
    high-pressure liquid-encapsulated Czochralski crystal growth**
Author(s): Zou YF (REPRINT) ; Wang GX; Zhang H; Prasad V
Corporate Source: HIBBITT KARLSSON & SORENSON INC,1080 MAIN
    ST/PAWTUCKET//RI/02860 (REPRINT); SUNY STONY BROOK,CONSORTIUM CRYSTAL
    GROWTH RES/STONY BROOK//NY/11794
Abstract: The mechanism of dopant transport and segregation in
    high-pressure liquid-encapsulated Czochralski (HPLEC) grown Ill-V
    compound crystals (e.g., GaAs, InP) has been numerically studied using
    an integrated model, MASTRAPP. The model approximates the melt flow in
    the crucible as a quasi-steady-state, laminar, and axisymmetric pow,
    but the gas flow is considered as turbulent. Based on the physics of
    the growth process, a two-time-level scheme has been implemented where

the dopant transport ⬤d growth are simulated at a sm⬤er ti,ne scale
while flow and temperature solutions are obtained from quasi-static
calculations . Detailed numerical analyses are performed for the
conditions of pure crystal rotation, pure thermally driven natural
convection, and pure crucible rotation as well as for mixed pow with
all of these forces present **simultaneously** The dopant transport and
segregation in these cases are well correlated to the corresponding
melt flow pattern. Very weak radial segregation is predicted for pure
crystal rotation because the resulting melt flow leads to a fairly flat
solute **boundary** layer. The natural convection, on the other hand
produces a nonuniform **boundary** layer along the melt/crystal
interface. This lends to a strong radial segregation with a high
concentration along the **central** mis of the crystal. The crucible
rotation has a similar effect. The combined effect Of all of these pow
mechanisms produces a strong radial segregation, whose extent depends
on the relative strength of the drilling forces. In all of these cases,
strong melt flows lead to thin **boundary** layers that result in
decreased longitudinal segregation. The predictions agree well with the
experimental observations reported in the literature.

Descriptors--Author Keywords: control ; crystal growth ; heat transfer ;
modeling ; **moving boundaries**

Identifiers--KeyWord Plus(R): ADAPTIVE-GRID-GENERATION; INP CRYSTALS; MELT;
CONVECTION; INTERFACE; SIMULATION; MACROSEGREGATION; SOLIDIFICATION;
COEFFICIENT; DYNAMICS

Cited References:
ANSELMO A, 1993, V134, P116, J CRYST GROWTH
BARALIS G, 1968, V3, P651, J CRYST GROWTH
BENSON KE, 1965, V3, P332, ELECTROCHEM TECHNOL
BLISS D, 1998, COMMUNICATION
BURTON JA, 1953, V21, P1987, J CHEM PHYS
CARRUTHERS JR, 1967, V114, P959, J ELECTROCHEM SOC
CORIELL SR, 1979, V46, P479, J CRYST GROWTH
DERBY JJ, 1988, V87, P251, J CRYST GROWTH
FAVIER JJ, 1981, V29, P197, ACTA METALL
GARANDET JP, 1994, V2, P659, HANDB CRYST GROWTH
GARANDET JP, 1993, V131, P431, J CRYST GROWTH
HOSHIKAWA K, 1984, V23, PL37, JPN J APPL PHYS
HURLE DTJ, 1994, V2, P99, HANDB CRYST GROWTH
HURLE DTJ, 1968, V3, P633, J CRYST GR
HURLE DTJ, 1985, V73, P1, J CRYST GROWTH
JORDAN AS, 1985, V71, P551, J CRYST GROWTH
JORDAN AS, 1985, V71, P559, J CRYST GROWTH
KADDECHE S, 1996, V168, P144, J CRYST GROWTH
KIM KM, 1986, V133, P2586, J ELECTROCHEM SOC
KIM KM, 1989, V136, P1137, J ELECTROCHEM SOC
MUKHERJEE DK, 1996, V169, P136, J CRYST GROWTH
MULLER G, 1988, CRYSTAL GROWTH MELT
NUNES EM, 1996, V323, P27, TRANSPORT PHENOM HTD
OSTROGORSKY AG, 1992, V121, P587, J CRYST GROWTH
PRASAD V, 1994, V142, P21, J CRYST GROWTH
RISTORCELLI JR, 1992, V116, P447, J CRYST GROWTH
WHEELER AA, 1989, V97, P64, J CRYST GROWTH
WILSON LO, 1978, V44, P371, J CRYST GROWTH
WILSON LO, 1980, V48, P435, J CRYST GROWTH
WOLFF F, 1988, V31, P1735, INT J HEAT MASS TRAN
YEN CT, 1992, V118, P259, J CRYST GROWTH
ZHANG H, 1997, IN PRESS ASME J HEAT
ZHANG H, 1995, V155, P47, J CRYST GROWTH
ZHANG H, 1996, V169, P250, J CRYST GROWTH
ZHANG H, 1995, V27, P255, NUMER HEAT TR B-FUND
ZHANG H, 1996, V29, P399, NUMER HEAT TR B-FUND
ZHANG T, 1998, IN PRESS P 12 INT C
ZOU YF, 1996, V166, P476, J CRYST GROWTH
ZOU YF, 1997, V180, P524, J CRYST GROWTH
ZOU YF, 1997, THESIS STATE U NEW Y
ZUO R, 1996, V158, P377, J CRYST GROWTH

Title: SIMULTANEOUS **ESTIMATION OF TRANSMISSIVITY VALUES AND ZONATION**
Author(s): EPPSTEIN MJ; DOUGHERTY DE
Corporate Source: UNIV VERMONT,DEPT CIVIL & ENVIRONM ENGN,RES
    CTRGROUNDWATER REMEDIAT DESIGN/BURLINGTON//VT/05405
Journal: WATER RESOURCES RESEARCH, 1996, V32, N11 (NOV), P3321-3336
ISSN: 0043-1397
Language: ENGLISH   Document Type: ARTICLE
Geographic Location: USA
Subfile: SciSearch; CC AGRI--Current Contents, Agriculture, Biology &
    Environmental Sciences; CC ENGI--Current Contents, Engineering,
    Technology & Applied Sciences
Journal Subject Category: LIMNOLOGY; ENVIRONMENTAL SCIENCES; WATER
    RESOURCES

Abstract: The extended Kalman filter (EKF) has long been recognized as a
    powerful, yet computationally intensive, methodology for stochastic
    parameter estimation: Three improvements to traditional **algorithms**
    are presented and applied to heterogeneous transmissivity estimation.
    First, the costly EKF covariance **updates** are replaced by more
    efficient approximations. Second, the zonation structure of the
    distributed parameter field being estimated is dynamically determined
    and refined using a **partitional clustering algorithm** . Third, a
    new method of merging first and second moments of random fields that
    have heterogeneous statistics is introduced. We apply this method,
    called random field union, as an alternative to conventional random
    field averaging for the systematic shrinking of covariance matrices as
    the dimensionality of the parameter space is reduced. The effects of
    these three improvements are examined. In applications to steady state
    groundwater flow test problems, we show that the first and second
    improvements reduce the computational time requirements dramatically,
    while the second and third can improve the accuracy and stability of
    the results. The resulting integrated method is successfully applied to
    a larger, more realistic calibration test case under steady and
    cyclostationary flow conditions (similar to regular seasonal
    fluctuations). When flow is steady, the method can-be viewed as
    iterative; when flow is transient, the method is fully recursive.
Identifiers--KeyWords Plus: NUMERICAL GROUNDWATER SIMULATIONS;
    PARAMETER-IDENTIFICATION; STOCHASTIC-ANALYSIS; CONTAMINANT TRANSPORT;
    AQUIFER REMEDIATION; DATA ASSIMILATION; SOLUTE TRANSPORT; INVERSE
    PROBLEM; KALMAN FILTER; UNCERTAINTY
Research Fronts: 94-0419 001   (UNIFIED CRITICAL-STATE BOUNDING-SURFACE
    PLASTICITY MODEL FOR SOIL; CYCLIC PATHS; 3-DIMENSIONAL INVERSION;
    EXTENDED BAYESIAN METHOD; SOFT CLAY)
  94-1003 001   (STRUCTURAL RELIABILITY; PROBABILITY-BASED CODIFIED DESIGN;
    SIMPLIFIED LOAD COMBINATION FACTOR; PRESTRESSED CONCRETE BEAMS)
  94-5820 001   (KALMAN FILTER; DATA ASSIMILATION IN NONLINEAR OCEAN
    MODELS; SIMPLE ESTIMATION **ALGORITHM** FOR PERFORMANCE-SEEKING
    CONTROLLERS; NOISY IMAGE SEQUENCES)
  94-6371 001   (NEURAL NETWORKS; **K - MEANS CLUSTERING** ; PAI-2 IN BREAST
    CARCINOMAS; MULTIVARIATE DATA-ANALYSIS)

Cited References:
    ANDERSSEN RS, 1987, CMARO187 AUST NATL U
    ANDERSSEN RS, 1992, V31, P247, MIN C INV PROBL PART
    ANDRICEVIC R, 1990, V26, P875, WATER RESOUR RES
    ANDRICEVIC R, 1993, V29, P5, WATER RESOUR RES
    BURL JB, 1993, V2, P285, IEEE T IP
    CARLSON NA, 1990, V26, P517, IEEE T AERO ELEC SYS
    CHUI CK, 1990, V35, P100, IEEE T AUTOMAT CONTR
    DEE DP, 1991, V117, P365, Q J ROY METEOR SOC
    DUBES RC, 1987, V20, P645, PATTERN RECOGN
    EPPSTEIN MJ, 1994, V1, P727, COMPUTATIONAL METHOD
    GELB A, 1974, APPLIED OPTIMAL ESTI
    GRAHAM W, 1989, V25, P2331, WATER RESOUR RES
    GRAHAM WD, 1991, V27, P1345, WATER RESOUR RES

GRAHAM WD, 1993, V29, P3791, WATER RESOUR RES
GUTJAHR AL, 1978, V14, P953, WATER RESOUR RES
HANTUSH MM, 1994, V30, P559, WATER RESOUR RES
JAIN AK, 1988, ALGORITHMS CLUSTERIN
JINNO K, 1989, V188, P131, IAHS PUBL
KALMAN RE, 1960, V82, P35, J BASIC ENG D
KITANIDIS PK, 1976, THESIS MIT CAMBRIDGE
LEE SI, 1991, V27, P2203, WATER RESOUR RES
MCLAUGHLIN DB, 1978, P639, APPL KALMAN FILTER H
MCLAUGHLIN DB, 1976, P109, IIASA P SER
ROY S, 1991, V27, P276, IEEE T AERO ELEC SYS
SCHMIDTKE KD, 1982, V18, P1519, WATER RESOUR RES
SEN Z, 1984, V74, P259, J HYDROL
STARK H, 1986, PROBABILITY RANDOM P
SUN NZ, 1994, V6, THEORY APPL TRANSPOR
SUN NZ, 1985, V21, P869, WATER RESOUR RES
SUN NZ, 1995, V31, P89, WATER RESOUR RES
TODLING R, 1994, V122, P2530, MON WEATHER REV
VANGEER FC, 1985, V77, P361, J HYDROL
VANGEER FC, 1991, V27, P1987, WATER RESOUR RES
VANMARCKE E, 1983, RANDOM FIELDS ANAL S
WANG HF, 1982, INTRO GROUNDWATER MO
WILSON J, 1978, P657, APPL KALMAN FILTER H
YEH WWG, 1981, V17, P664, WATER RESOUR RES
YEH WWG, 1986, V22, P95, WATER RESOUR RES
YU YS, 1989, V25, P295, WATER RESOUR BULL
ZHOU YX, 1991, V27, P1995, WATER RESOUR RES
ZOU S, 1995, V33, P319, GROUND WATER

Title: DISTRIBUTED DYNAMICS IN NEURAL NETWORKS
Author(s): HERZ AVM; MARCUS CM
Corporate Source: CALTECH,DIV CHEM,PHYS COMPUTAT
    LAB,139-74/PASADENA//CA/91125; HARVARD UNIV,DEPT
    PHYS/CAMBRIDGE//MA/02138; HARVARD UNIV,DIV APPL SCI/CAMBRIDGE//MA/02138
Abstract: We analyze the dynamics and statistical mechanics of attractor
    neural networks with ''distributed'' **updating** rules in which groups
    of one or more neurons are **updated   simultaneously** . Such partially
    parallel **updating** schemes are a **central** feature of neural-network
    architectures that use many processors, implemented either on special
    multiprocessor hardware, or among many computers linked over a network.
    Several **updating** rules are classified and discussed; these rules
    generalize the parallel dynamics of the Little model and the
    one-at-a-time dynamics of the Hopfield model. Analytic results
    presented herein include a stability criterion that specifies
    sufficient conditions under which distributed dynamics lead to
    fixed-point attractors. For binary neurons with block-sequential
    updating and a Hebbian learning rule, the storage capacity is found as
    a function of the number of **update   groups** . Several open problems
    are also discussed.
Identifiers--KeyWords Plus: STATISTICAL-MECHANICS; TEMPORAL ASSOCIATION;
    SEQUENCES; SYSTEMS; DELAYS
Research Fronts: 91-0754 007   (NEURAL NETWORKS; LOCAL LEARNING
    PRESCRIPTION FOR ARBITRARY CORRELATED PATTERNS; STATISTICAL-MECHANICAL
    FORMULATION OF THE WILLSHAW MODEL)
  91-2005 002   (PARALLEL ASYNCHRONOUS **ALGORITHMS** ; LINEAR

PARTIAL-DIFFERENTIAL ⬤UATIONS; INEQUALITY CONSTRAINT⬤NONLINEAR
BOUNDARY -VALUE-PROBLEMS)

Cited References:
    AMIT DJ, 1987, V173, P30, ANN PHYS-NEW YORK
    AMIT DJ, 1985, V32, P1007, PHYS REV A
    BAUDET GM, 1978, V25, P226, J ASSOC COMPUT MACH
    BAUER K, 1991, V84, P131, Z PHYS B CON MAT
    CHANDY KM, 1990, V14, P117, SCI COMPUT PROGRAM
    CHAZAN D, 1969, V2, P199, LINEAR ALGEBRA APPL
    GOLESCHACC E, 1985, V12, P261, DISCRETE APPL MATH
    HERZ AVM, IN PRESS NEURAL NETW
    HERZ AVM, 1991, V44, P1415, PHYS REV A
    HERZ AVM, 1991, V66, P1370, PHYS REV LETT
    HOPFIELD JJ, 1985, V52, P141, BIOL CYBERN
    HOPFIELD JJ, 1982, V79, P2554, P NATIONAL ACADEMY S
    HORNER H, 1988, COMPUTATIONAL SYSTEM
    KUHN R, COMMUNICATION
    KUHN R, 1990, MODELS NEURAL NETWOR
    KUHN R, 1991, V43, P2084, PHYS REV A
    LINDENBERG J, COMMUNICATION
    LITTLE WA, 1974, V19, P101, MATH BIOSCI
    MARCUS CM, 1989, V40, P501, PHYS REV A
    MARCUS CM, 1990, V42, P2410, PHYS REV A
    MATO G, 1991, V84, P483, Z PHYS B CON MAT
    MCCULLOCH WS, 1943, V5, P115, B MATH BIOPHYS
    MITRA D, 1987, V8, P43, SIAM J SCI STAT COMP
    PERETTO P, 1984, V50, P51, BIOL CYBERN
    SAWITZKI G, 1990, NETWORK PROJECT
    TSENG P, 1989, V28, P678, SIAM J CONTROL

17/5/30   (Item 5 from file: 34)

01771254   Genuine Article#: HZ711   Number of References: 53
Title: **PARALLEL** ALGORITHMS **FOR STATISTICAL PHYSICS PROBLEMS**
Author(s): HEERMANN DW; BURKITT AN
Corporate Source: UNIV HEIDELBERG,INST THEORET PHYS,PHILOSOPHENWEG
    19/W-6900 HEIDELBERG//GERMANY/; BERG UNIV GESAMTHSCH
    WUPPERTAL,FACHBEREICH PHYS/W-5600 WUPPERTAL 1//GERMANY/
Journal: TOPICS IN APPLIED PHYSICS, 1992, V71, P53-74
Language: ENGLISH   Document Type: REVIEW
Geographic Location: GERMANY
Subfile: SciSearch
Journal Subject Category: PHYSICS, APPLIED
Abstract: The rapid development of computer simulation methods [3.1-5] over
    the last couple of years has been matched only by the equally rapid
    advances that have taken place in the field of computer technology. The
    many-fold increases in the speed, memory size and the flexibility of
    computers has opened up a vast number of new possibilities for studying
    science and engineering problems, and enabled both new insights and new
    lines of enquiry. However, the complexity of the problems studied and
    the accuracy of the results required are such that the computing
    resources available are hardly able to keep up with the demand.
        The last decade has been the birth of a very different type of
    computer architecture that provides a qualitative improvement in
    machine performance, namely the development of parallel computers.
    There are an astonishing diversity of such parallel machines, and they
    have been used to study an equally wide variety of problems. The
    performance of the present generation of parallel machines is now
    overtaking that of the best scalar and vector machines, particularly on
    problems for which there are suitable parallel **algorithms** .

        In a chapter like this it is clearly not possible to provide a
    comprehensive presentation of all the methods and **algorithms** that are
    used, nor all the machines that are available, to simulate models of
    interest in physics. Insofar as such reviews [3.6] and articles are

available, we provide appropriate references to the literature. We do
seek to provide, however, a flavour of the **central** features that are
involved in computer simulations on parallel computers, and we seek to
illustrate these with examples. Some of the various paradigms for
parallel computing are introduced as a **means** of distinguishing both
different types of **algorithms** and different types of machines for
carrying out simulations. We then present a number of such **algorithms**
that are appropriate for Single Instruction-Multiple Data (SIMD)
machines, followed by **algorithms** that arc appropriate for Multiple
Instruction Multiple Data (MIMD) machines.

But before proceeding to look at various paradigms of parallel
computing, we need to make some remarks about the importance of
parallelism for computational science. The computer simulation of a
physical system is in essence a numerical experiment that differs from
its laboratory counterpart in a number of crucial ways. In a computer
simulation we have the freedom to choose both the type of model we wish
to study and the conditions (i.e., temperature, interparticle
couplings, etc.) under which we wish to study it, often in ways that
are not possible in a laboratory experiment. This gives us an enormous
range of phenomena that can be investigated and a tremendous
flexibility in investigating even the basic assumptions of our
understanding of such systems, although we must recognise also that
limitations will be encountered. These limitations, which arise from
the finite simulation time, finite system size and so forth, are
reflected in thc accuracy of the results that we obtain.

The most obvious advantage offered by parallel computing is the
promise of vast increases in computer resources. either existing or to
become available in the near future. Possibilities still exist for
increasing the performance of single-processor machines, but it is now
apparent that such increases are clearly limited. By using a large
number of processors to solve parts of a problem **simultaneously** ,
however, we have the possibility of almost unlimited computing power.
The extent to which it is feasible or even possible to achieve this in
practice is a question that we will examine here, both in relation to
the particular architecture of the parallel computer and the type of
algorithm that is implemented. The speed-up that it is possible to
gain by using a multi-processor machine is a **central** concept, and we
will look more closely at how best to define this quantity and what
factors play a role in determining the speed-up that a parallel
computer is actually able to deliver in regard to a specific problem.

In addition to this raw increase in computer power, however, the
study of parallelism can bring a fresh view of physical processes with
it. The inherent parallelism of many processes in nature becomes more
transparent and is capable of being reflected in the models and methods
we use to understand these physical processes. This new perspective
often allows us to see another facet of the problem that was not
apparent through serial methods of analysis and solution.

Identifiers--KeyWords Plus: MOLECULAR-DYNAMICS; TRANSPUTER ARRAYS;
    ISING-MODEL; SIMULATION; SYSTEMS
Research Fronts: 90-2757 004   (**CLUSTER   UPDATE** MONTE-CARLO; O(N)
    MODELS; SWENDSEN-WANG DYNAMICS; 3D ISING DROPLETS; JULIA SET)
  90-0019 001   (SIMULATED ANNEALING; QUANTUM STOCHASTIC OPTIMIZATION;
    MASSIVELY PARALLEL AUTOMATIC TEST-GENERATION)
  90-0064 001   (3-DIMENSIONAL MAGNETIC-RESONANCE IMAGES; VOLUME DATA;
    DELAUNAY TRIANGULATION; SOLID MODELS)
  90-0272 001   (CELLULAR AUTOMATA; LATTICE GASES MIXTURES MODELS; KINETIC
    OSCILLATIONS IN THE CATALYTIC CO OXIDATION)
  90-0365 001   (SYSTOLIC ARRAYS; PARALLEL **ALGORITHM** ; DESIGN OF VLSI
    ARCHITECTURES)
  90-0648 001   (MOLECULAR-DYNAMICS SIMULATION; PHASE-EQUILIBRIA FOR THE
    2-DIMENSIONAL LENNARD-JONES FLUID; INFRARED-ABSORPTION SPECTRA OF LARGE
    WATER **CLUSTERS**)
  90-2144 001   (N-COMPONENT MODEL; **CLUSTER   UPDATE** MONTE-CARLO;
    CRITICAL-BEHAVIOR IN 3 DIMENSIONS; MINIMAL RENORMALIZATION;
    HIGH-TEMPERATURE SERIES; MASS DENSITY)

90-2635 001   (PHASE-SEPARATION DYNAMICS OF POLYCARBONATE/POLYMETHYL
    METHACRYLATE BLENDS; MULTIARMED STAR POLYMERS; SPINODAL DECOMPOSITION;
    RELAXATION BEHAVIOR)
90-7166 001   (MONTE-CARLO SIMULATION; 2-DIMENSIONAL SELF-AVOIDING WALKS;
    DENSE POLYMER SYSTEMS; LATTICE MODELS)
Cited References:
    COMPUTING SURFACE HA, 1987
    SUPERCLUSTER HARDWAR, 1988
    ALLEN MP, 1987, COMPUTER SIMULATION
    ASKEW CR, 1986, V42, P21, COMPUT PHYS COMMUN
    ASKEW CR, 1988, V6, P247, PARALLEL COMPUT
    BARKAI D, 1982, V25, P57, COMPUT PHYS COMMUN
    BINDER K, 1985, SCALING PHENOMENA DI
    BINDER K, 1988, V80, SPRINGER SER SOLID S
    BINDER K, 1986, V7, TOPICS CURRENT PHYSI
    BURKITT AN, 1989, V54, P201, COMPUT PHYS COMMUN
    BURKITT AN, 1989, V10, P207, EUROPHYS LETT
    CICCOTTI G, 1986, MOL DYNAMICS SIMULAT
    DUFF IS, 1989, V11, P1, COMPUT PHYS REP
    FORTUIN CM, 1972, V57, P536, PHYSICA
    FOX GC, 1984, V37, P50, PHYS TODAY
    FOX GC, 1988, V1, SOLVING PROBLEMS CON
    GLAUBER RJ, 1963, V4, P294, J MATH PHYS
    GUNTON JD, 1983, V8, PHASE TRANSITIONS CR
    HEERMANN DW, 1990, V60, P311, COMPUT PHYS COMMUN
    HEERMANN DW, 1990, COMPUTER SIMULATION
    HEERMANN DW, 1990, V13, P345, PARALLEL COMPUT
    HEERMANN DW, 1991, V24, SPRINGER SER INF SCI
    HEERMANN DW, 1990, UNPUB
    HERRMANN HJ, 1986, V45, P145, J STAT PHYS
    HEY AJG, 1989, V56, P1, COMPUT PHYS COMMUN
    HEY AJG, 1989, V366, LECT NOTES COMPUT SC
    HILLIS W, 1987, P108, SCI AM JUN
    HOCKNEY RW, 1981, PARALLEL COMPUTERS
    HOCKNEY RW, 1989, V2, PARALLEL COMPUTERS
    HOOVER WG, 1986, V258, LECT NOTES PHYS
    KALOS MH, 1986, MONTE CARLO METHODS
    KASTELEYN PW, 1969, V26, P11, J PHYS SOC JAPAN S
    KUNG HT, 1980, V19, P65, ADV COMPUT
    MADRAS N, 1988, V50, P109, J STAT PHYS
    METROPOLIS N, 1953, V21, P1087, J CHEM PHYS
    MOURITSEN OG, 1984, COMPUTER STUDIES PHA
    NICOL D, 1988, V5, P404, J PARALLEL DISTRIB C
    PARKINSON D, 1983, V28, P325, COMPUT PHYS COMMUN
    PAWLEY GS, 1985, V37, P251, COMPUT PHYS COMMUN
    PAWLEY GS, 1984, V29, P4030, PHYS REV B
    PAWLEY GS, 1982, V48, P410, PHYS REV LETT
    PRITCHARD DJ, 1987, V258, P278, LECTURE NOTES COMPUT
    RAPAPORT DC, 1988, V9, P1, COMPUT PHYS REP
    REDDAWAY SF, 1973, 1ST ANN S COMP ARCH
    ROGERS DF, 1985, PROCEDURAL ELEMENTS
    SADIQ A, 1984, V35, P517, J STAT PHYS
    SIMON HD, 1989, SCI APPLICATIONS CON
    STAUFFER D, 1985, INTRO PERCOLATION TH
    SWENDSEN RH, 1987, V58, P86, PHYS REV LETT
    TILDESLEY DJ, 1987, COMPUTATIONAL PHYSIC
    TOMAYO P, 1990, BOSTON U PREPRINT
    VICHNIAC GY, 1984, V10, P96, PHYSICA D
    WOLFF U, 1989, V62, P361, PHYS REV LETT

17/5/31   (Item 6 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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01486300   Genuine Article#: HC610   Number of References: 72
Title: PHASE-EQUILIBRIA AND CRITICAL-BEHAVIOR OF SQUARE-WELL FLUIDS OF
    VARIABLE WIDTH BY GIBBS ENSEMBLE MONTE-CARLO SIMULATION

Author(s): VEGA L; DEMIGUE E; RULL LF
Corporate Source: UNIV SEVILLA,DEPT FIS ATOM MOLEC & NUCL,APTDO
    1065/E-41080 SEVILLE//SPAIN/; UNIV SHEFFIELD,DEPT CHEM/SHEFFIELD S3
    7HF/S YORKSHIRE/ENGLAND/
Abstract: The vapor-liquid phase equilibria of square-well systems with
    hard-sphere diameters sigma, well-depths epsilon, and ranges lambda =
    1.25, 1.375, 1.5, 1.75, and 2 are determined by Monte Carlo simulation.
    The two bulk phases in coexistence are simulated **simultaneously** using
    the Gibbs ensemble technique. Vapor-liquid coexistence curves are
    obtained for a series of reduced temperatures between about $T(r) =
    T/T(c) = 0.8$ and 1, where $T(c)$ is the critical temperature. The radial
    pair distribution functions $g(r)$ of the two phases are calculated
    during the simulation, and the results extrapolated to give the
    appropriate contact values g(sigma), g(lambda-sigma), and
    g(lambda-sigma+). These are used to calculate the vapor-pressure
    curves of each system and to test for equality of pressure in the
    coexisting vapor and liquid phases. The critical points of the
    square-well fluids are determined by analyzing the density-temperature
    coexistence data using the first term of a Wegner expansion. The
    dependence of the reduced critical temperature $T(c)* = kT(c)/epsilon$,
    pressure $P(c)* = P(c)sigma-3/epsilon$, number density $rho(c)* =
    rho(c)sigma-3$, and compressibility factor $Z = P/(rho-kT)$, on the
    potential range lambda, is established. These results are compared
    with existing data obtained from perturbation theories. The shapes of
    the coexistence curves and the approach to criticality are described in
    terms of an apparent critical exponent beta. The curves for the
    square-well systems with lambda = 1.25, 1.375, 1.5, and 1.75 are very
    nearly cubic in shape corresponding to near-universal values of beta
    (beta almost-equal-to 0.325). This is not the case for the system with
    a longer potential range; when lambda = 2, the coexistence curve is
    closer to quadratic in shape with a near-classical value of beta (beta
    almost-equal-to 0.5). These results seem to confirm the view that the
    departure of beta from a **mean** -field or classical value for
    temperatures well below critical is unrelated to long-range,
    near-critical fluctuations.
Identifiers--KeyWords Plus: BORN-GREEN EQUATION; RADIAL-DISTRIBUTION
    FUNCTION; PERCUS-YEVICK EQUATION; LENNARD-JONES FLUID;
    PERTURBATION-THEORY; CRITICAL-POINT; THERMODYNAMIC PROPERTIES;
    COMPUTER-SIMULATIONS; RANGE EXPANSION; HARD-SPHERES
Research Fronts: 90-0648 002   (MOLECULAR-DYNAMICS SIMULATION;
    PHASE-EQUILIBRIA FOR THE 2-DIMENSIONAL LENNARD-JONES FLUID;
    INFRARED-ABSORPTION SPECTRA OF LARGE WATER **CLUSTERS**)
  90-0019 001   (SIMULATED ANNEALING; QUANTUM STOCHASTIC OPTIMIZATION;
    MASSIVELY PARALLEL AUTOMATIC TEST-GENERATION)
  90-0106 001   (LIQUID WATER; MOLECULAR-DYNAMICS SIMULATION; FREE-ENERGY
    PERTURBATION **CALCULATIONS** ; DOUBLE DNA HELIX)
  90-0517 001   (DENSITY FUNCTIONAL THEORY; INHOMOGENEOUS HARD-SPHERE
    FLUID; FREEZING OF SIMPLE LIQUIDS)
  90-2144 001   (N-COMPONENT MODEL; **CLUSTER   UPDATE** MONTE-CARLO;
    CRITICAL-BEHAVIOR IN 3 DIMENSIONS; MINIMAL RENORMALIZATION;
    HIGH-TEMPERATURE SERIES; MASS DENSITY)
  90-3462 001   (CURVED INTERFACE; FREE-ENERGY MODEL FOR THE INHOMOGENEOUS
    HARD-SPHERE FLUID; IMMISCIBLE LIQUIDS; VESICLE FORMATION)
Cited References:
    ALDER BJ, 1972, V56, P3013, J CHEM PHYS
    ALLEN MP, 1987, COMPUTER SIMULATIONS
    AMAR JG, 1989, V67, P739, MOL PHYS
    BENAVIDES AL, 1989, V68, P983, MOL PHYS
    BENAVIDES AL, 1991, V74, P321, MOL PHYS
    CARLEY DD, 1977, V67, P1267, J CHEM PHYS
    CARLEY DD, 1983, V78, P5776, J CHEM PHYS
    CARLEY DD, 1981, V23, P1411, PHYS REV A

CARNAHAN NF, 1969, V⬤ P635, J CHEM PHYS
CHAPELA GA, 1987, V86, P5683, J CHEM PHYS
CO KU, 1976, V64, P2197, J CHEM PHYS
CO KU, 1978, V36, P1883, MOL PHYS
DELONNGI DA, 1983, V48, P293, MOL PHYS
DELONNGI DA, 1985, V56, P691, MOL PHYS
DELRIO F, 1987, V87, P7179, J CHEM PHYS
DELRIO F, 1987, V61, P275, MOL PHYS
DEMIGUEL E, 1990, V71, P1223, MOL PHYS
DEPABLO JJ, 1989, V53, P177, FLUID PHASE EQUILIBR
DEPABLO JJ, 1990, V93, P7355, J CHEM PHYS
FISHMAN S, 1981, V47, P421, PHYS REV LETT
FISHMAN S, 1981, V108, P1, PHYSICA A
GREEN KA, 1980, V21, P356, PHYS REV A
GREEN KA, 1981, V24, P2093, PHYS REV A
GREEN KA, 1982, V25, P1060, PHYS REV A
GREEN KA, 1979, V42, P985, PHYS REV LETT
GUBBINS KE, 1989, V2, P223, MOL SIMUL
HENDERSON D, 1976, V64, P5026, J CHEM PHYS
HENDERSON D, 1976, V64, P4244, J CHEM PHYS
HENDERSON D, 1980, V72, P2431, J CHEM PHYS
JONES GL, 1981, V46, P795, PHYS REV LETT
JONES GL, 1982, V48, P447, PHYS REV LETT
KOZAK JJ, 1972, V57, P207, J CHEM PHYS
LADO F, 1968, V49, P4244, J CHEM PHYS
LEVESQUE D, 1966, V32, P1985, PHYSICA
LINCOLN W, 1974, V61, P4129, J CHEM PHYS
LINCOLN W, 1975, V62, P1116, J CHEM PHYS
LINCOLN WW, 1975, V62, P2171, J CHEM PHYS
METROPOLIS N, 1953, V21, P1087, J CHEM PHYS
PANAGIOTOPOULOS AZ, 1989, V53, P133, FLUID PHASE EQUILIBR
PANAGIOTOPOULOS AZ, 1987, V61, P813, MOL PHYS
PANAGIOTOPOULOS AZ, 1987, V62, P701, MOL PHYS
PANAGIOTOPOULOS AZ, 1988, V63, P527, MOL PHYS
PRESS WH, 1986, NUMERICAL RECIPES
ROSENFELD Y, 1975, V63, P1875, J CHEM PHYS
ROTENBERG A, 1965, V43, P1198, J CHEM PHYS
ROWLINSON JS, 1982, LIQUIDS LIQUID MIXTU
ROWLINSON JS, 1982, MOL THEORY CAPILLARI
RUDISILL EN, 1989, V68, P629, MOL PHYS
SCARFE KD, 1976, V65, P2991, J CHEM PHYS
SCHRODT IB, 1972, V57, P200, J CHEM PHYS
SCHRODT IB, 1972, V57, P4589, J CHEM PHYS
SCHRODT IB, 1974, V60, P170, J CHEM PHYS
SENGERS JV, 1978, P103, PROGR LIQUID PHYSICS
SINGH RR, 1989, V90, P5742, J CHEM PHYS
SINGH RR, 1990, V92, P5463, J CHEM PHYS
SMIT B, 1989, V68, P931, MOL PHYS
SMIT B, 1989, V68, P951, MOL PHYS
SMITH WR, 1970, V53, P508, J CHEM PHYS
SMITH WR, 1971, V55, P4027, J CHEM PHYS
SMITH WR, 1974, V61, P2911, J CHEM PHYS
SMITH WR, 1977, V67, P5308, J CHEM PHYS
SMITH WR, 1978, V69, P319, J CHEM PHYS
STAPLETON MR, 1990, V92, P1285, J CHEM PHYS
TAGO Y, 1973, V58, P2096, J CHEM PHYS
TAGO Y, 1974, V60, P1528, J CHEM PHYS
TAGO Y, 1973, V44, P43, PHYS LETT A
VERLET L, 1967, V159, P98, PHYS REV
VERLET L, 1967, V36, P254, PHYSICA
VERSCHAFFELT J, 1986, V28, P1, COMMUN LAB PHYS U LE
WEGNER FJ, 1972, V5, P4529, PHYS REV B
WOOD WW, 1968, V48, P415, J CHEM PHYS
YETHIRAJ A, 1991, V72, P619, MOL PHYS

01108541　　Genuine Article#: FW683　　Number of References: 28
Title: THE KCTG 1ST CLINICAL-EXPERIENCES WITH THE KINETOCARDIOTOCOGRAM
Author(s): SCHMIDT W; GNIRS J
Corporate Source: UNIV HOMBURG,FRAUENKLIN,POLIKLIN &
　　HEBAMMENLEHRANSTALT/D-6650 HOMBURG//FED REP GER/
Journal: GEBURTSHILFE UND FRAUENHEILKUNDE, 1991, V51, N6, P437-442
Language: GERMAN　　Document Type: ARTICLE
Geographic Location: FEDERAL REPUBLIC OF GERMANY
Subfile: SciSearch; CC CLIN--Current Contents, Clinical Medicine
Journal Subject Category: OBSTETRICS & GYNECOLOGY

Abstract: 160 woman patients in whom the course of pregnancy was uneventful
　　of pathological (intrauterine growth retardation, percentile < 5) were
　　investigated at the Department of Obstetrics and Gynaecology of the
　　University of Homburg/Saar between the 28th and 42nd week of pregnancy,
　　using a newly developed cardiotocograph (HP M1350A Hewlett-Packard,
　　Boblingen, FRG).　By **means** of the kinetocardiotocogram (KCTG), fetal
　　mobility (fetal **movements** of the whole body or of the extremities)
　　was recorded **simultaneously** with the conventional recording of the
　　fetal heart rate and uterine contractions.　One of the aims in
　　developing the KCTG was to record as far as possible all fetal
　　movements synchronous to the recordings of heart rate and uterine
　　contractions.　To this end, the recording **algorithm** of the KCTG was
　　adapted to the examination results obtained by two **simultaneously**
　　operating ultrasound investigators.　After the 28th week of pregnancy
　　it was possible to record by the KCTG fetal " **movement　clusters** "
　　(combined body and limb **movements**) independent of the weight of the
　　fetus and of amniotic fluid volume or positional anomalies, reliably
　　and with good correlation with the results of the sonographic control
　　investigations (r = 0.88-0.97).　In cases of intrauterine growth
　　retardation (percentile < 5) a significantly reduced motility was
　　observed on average as early as 13 days before delivery (p < 0.005).
　　It must be emphasized that, at this stage, most of the antenatal CTGs
　　were normal.　These findings indicate that KCTG can contribute to
　　improved monitoring in high-risk pregnancies.

Identifiers--KeyWords Plus: REAL-TIME ULTRASOUND; FETAL HEART-RATE;
　　BEHAVIORAL STATES; MATERNAL PERCEPTION; **MOVEMENTS;**　STIMULATION;
　　FETUS; PREGNANCY; TERM
Research Fronts: 89-2602 001　　(BASELINE FETAL HEART-RATE IN TERM
　　PREGNANCY; PREMATURE RUPTURE; ACOUSTIC STIMULATION; GROWTH RETARDED
　　FETUSES; SEVERE OLIGOHYDRAMNIOS)

Cited References:
　　BEKEDAM DJ, 1985, V12, P155, EARLY HUM DEV
　　BESINGER RE, 1989, V74, P277, OBSTET GYNECOL
　　BOOS R, 1984, V44, P738, GEBURTSH FRAUENHEILK
　　BOOS R, 1987, V191, P154, Z GEBURTSH PERINATOL
　　DAWES G, 1991, COMMUNICATION
　　GNIRS J, 1991, JB GYNAKOLOGIE GEBUR
　　GNIRS J, 1990, P405, PERINATALE MED
　　GROSS W, 1988, V192, P83, GEBURTSH PERINATOL
　　MAEDA K, 1987, V109, P873, ZBL GYNAKOL
　　NELDAM S, 1980, V1, P1222, LANCET
　　NIJHUIS JG, 1982, V6, P177, EARLY HUM DEV
　　PRECHTL HFR, 1985, V12, P91, EARLY HUM DEV
　　RAYBURN WF, 1980, V138, P210, AM J OBSTET GYNECOL
　　SADOVSKY E, 1983, V62, P409, ACTA OBSTET GYN SCAN
　　SADOVSKY E, 1986, V21, P177, GYNECOL OBSTET INVES
　　SCHMIDT W, 1985, V12, P145, EARLY HUM DEV
　　SCHMIDT W, 1981, V41, P601, GEBURTSH FRAUENHEILK
　　SCHMIDT W, 1982, V42, P798, GEBURTSH FRAUENHEILK
　　SCHMIDT W, 1983, V43, P548, GEBURTSH FRAUENHEILK
　　SCHMIDT W, 1983, V43, P598, GEBURTSH FRAUENHEILK
　　SCHMIDT W, 1990, V23, P289, GYNAKOLOGE
　　SCHMIDT W, 1984, V22, P85, INT J GYN OBSTET
　　SCHMIDT W, 1984, V12, P313, J PERINAT MED
　　SCHWOBEL E, 1987, V15, P179, J PERINAT MED
　　VANVLIET MAT, 1985, V153, P582, AM J OBSTET GYNECOL

VISSER GHA, 1982, V1⬤ P535, AM J OBSTET GYNECOL
VISSER GHA, 1988, V1, P117, BAILLERES CLIN OBSTE
WOOD C, 1977, V84, P561, BRIT J OBSTET GYNAEC

17/5/33   (Item 1 from file: 95)

00545481 E92033224080
 Cluster   algorithms **for spin models on MIMD parallel computers**
(**Cluster - Algorithmus** fuer Spin-Modelle auf MIMD-Parallelrechnern)
Coddington, PD; Baillie, CF
California Inst. of Technology, Pasadena, USA
The Fifth Distributed Memory Computing Conference, Volume 1: Applications,
Charleston, USA, April 8-12, 19901990
Document type: Conference paper Language: English
Record type: Abstract
ISBN: 0-8186-2113-3

ABSTRACT:
Parallel computers are ideally suited to the Monte Carlo simulation of spin
models using the standard Metropolis **algorithm** , since it is regular and
local. However local **algorithms** have the major drawback that near a phase
transition the number of sweeps needed to generate a statistically
independent configuration increases as the square of the lattice size. New
algorithms have recently been developed which dramatically reduce this
'critical slowing down' by **updating** **clusters** of spins at a time. The
highly irregular and non-local nature of these **algorithms**   **means** that
they are much more difficult to parallelize efficiently. Here we introduce
the new **cluster**   **algorithms** , explain some sequential **algorithms** for
identifying and labelling connected **clusters** of spins, and then outline
some parallel **algorithms** which have been implemented on MIMD machines.

DESCRIPTORS: **PARALLEL   PROCESSING** ; MASSIVELY PARALLEL MACHINES; MONTE
CARLO METHOD; SYSTEM SIMULATION; MODEL SIMULATION; PARALLEL **ALGORITHMS** ;
ISING MODEL; STOCHASTICS; **CLUSTER** FORMING; COMPUTER PERFORMANCE
IDENTIFIERS: Spin-Modell; Parallelrechner; **Cluster** -Bildung